COMBAT

Poland 1939

German Soldier VERSUS Polish Soldier

David R. Higgins

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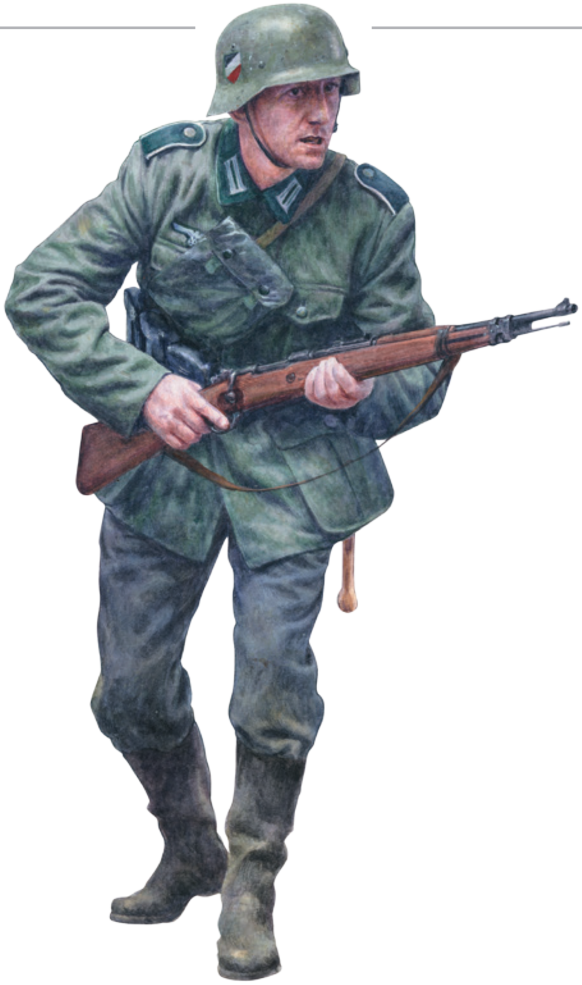


Illustrated by Steve Noon

CONTENTS

INTRODUCTION 4

THE OPPOSING SIDES 8
Doctrine and combat role • Recruitment, training and logistics • Leadership and morale • Weapons and tactics

CUTTING THE ‘POLISH CORRIDOR’ 28
1–2 September 1939

ŁOMŻA AND NOWOGRÓD 42
7–10 September 1939

THE BZURA POCKET 58
9–10 September 1939

ANALYSIS 71
Lessons learnt: Germany • Lessons learnt: Poland

AFTERMATH 76

UNIT ORGANIZATIONS 78

BIBLIOGRAPHY 79

INDEX 80

Introduction

During World War I much of what had been western Poland before the partition of that country in 1795 had been German and Austro-Hungarian territory for over a century, with Russia possessing the remainder. As such it was understandable that the Allied Powers – France, Britain, Italy and the United States – were sympathetic to the Polish cause. With Russia having succumbed to revolution and withdrawn from the conflict in March 1918, and an Armistice being signed on 11 November that year to end the war, Germany, Austria-Hungary and Russia subsequently began to fragment. During this post-war period of political chaos and social instability throughout Central and Eastern Europe a host of competing minority interests that had previously been quashed or mitigated under imperial control acted to bring their various causes for autonomy or independence to fruition.

Polish President Ignacy Mościcki reviewing passing Polish soldiers on 14 August 1939 in Wilno (now Vilnius, Lithuania). The event commemorated Piłsudski's successful counter-offensive against Soviet Russia in 1920 during the Polish–Soviet War. (Keystone-France/Gamma-Keystone via Getty Images)

German infantry training alongside armour, specifically a PzKpfw IV Ausf B medium tank. While the PzKpfw III medium tank, armed with a 5cm gun, was intended as Germany's main battle tank the PzKpfw IV, with its larger 7.5cm gun, provided close-range, direct infantry fire support against bunkers and built-up positions. (Nik Cornish at www.stavka.org.uk)

With a defeated Germany having to contend with an internal wave of revolutionary Communist elements, its new Weimar government was hard-pressed to secure its eastern borders. Polish Nationalist insurgents fought to expand their territorial ambitions after their leadership in Warsaw proclaimed the establishment of a Second Republic of Poland in November 1918. With a post-war Germany prohibited from possessing a full-scale military the Weimar Republic relied upon the millions of unemployed soldiers who joined right-wing paramilitary Freikorps or 'Black Reichswehr' groups to help maintain internal order and Germany's territorial integrity. During the resulting fighting between German and Polish irregulars in the Greater Polish Uprising (1918–19) and Silesian Uprisings (1919–21), Polish battlefield successes combined with the terms of the Versailles Treaty (1919) to win the new country what had been German territory in the form of West Prussia, East Upper Silesia and the ethnic-German majority city of Danzig. To guarantee Poland's expanded borders and provide France with an ally in Eastern Europe the two countries signed a military agreement on 21 February 1921 towards those ends.

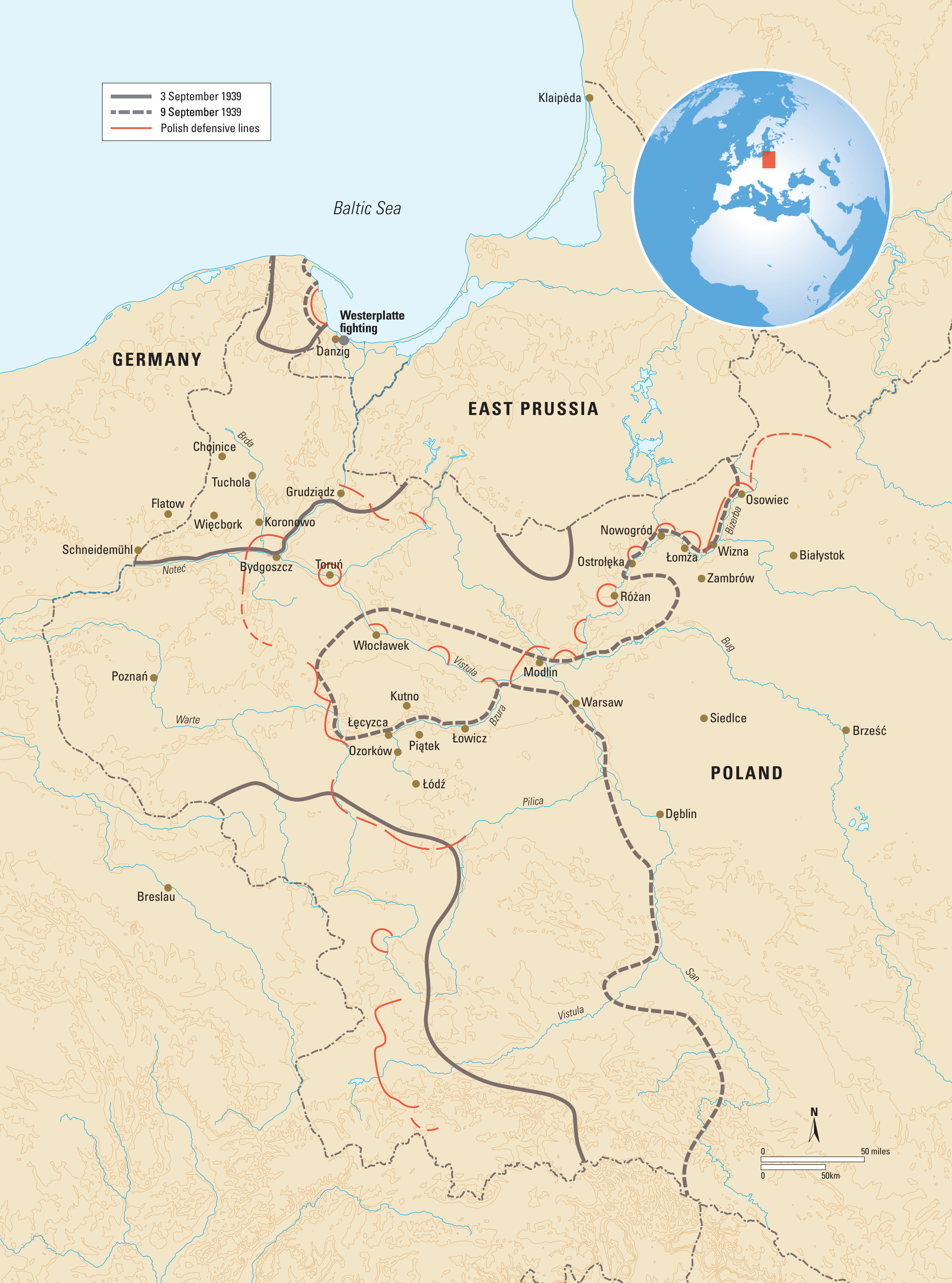
In the so-called 'Confines' in the east, where ethnic Poles were a minority, these regions were bitterly disputed during the Polish–Ukrainian (1918–19) and Polish–Soviet (1919–20) wars that resulted in Poland occupying Western Ukraine (Malopolska) and Western Belorussia (Polesie). Starting in the 1920s, the Polish authorities embarked on the forced assimilation of its new minority German, Ukrainian, Belorussian and Jewish populations, which made up one-third of the country's total population. With Marshal Józef Piłsudski's ascent to power in 1926 the Polish government transitioned from a parliamentary democracy to authoritarianism. With Poland being a predominantly agrarian country that had seen most of its industry and agriculture left in ruins during World War I, poverty was widespread. Although Poland possessed sizeable energy reserves, including timber, crude oil and coal, and a respectable steel and iron industry, exports were predominantly agricultural produce. Improving the newly independent country's economy, infrastructure, military and a host of other assets and services would take time, especially with limited foreign investment.

'Case White', September 1939

On 3 April 1939 the Oberkommando der Wehrmacht (OKW; High Command of the Armed Forces) issued a directive for Germany's armed forces to prepare plans for an invasion of Poland codenamed *Fall Weiß* ('Case White'). Intending to achieve a quick victory, German forces were poised to conduct a war of movement. By leveraging East Prussia's extended geography, Heeresgruppe Nord was to cut the 'Polish Corridor', push on to Warsaw and thrust an armoured and motorized pincer into the country's heartland. From the south-west, Heeresgruppe Süd was to perform a similar function in reverse with the combined intention of cutting off the Polish forces west of the River Vistula, while each army group sent a second pair of pincers deeper into central Poland in what was a *Kesselschlacht* ('cauldron battle' or battle of encirclement).

To compensate for its weakened position Poland signed a non-aggression pact with the Soviet Union on 25 July 1932 (which took effect from 23 December that year) in response to Hitler's rising popularity. With Piłsudski's secret effort to push France to act militarily against Germany having fallen on deaf ears, on 26 January 1934 Poland and Germany signed their own ten-year non-aggression agreement. In response to Germany's progress towards rearming and renewing its military strength and standing among its neighbours during the late 1930s, Hitler successfully regained much of the bordering German-speaking territories lost after World War I. With other countries still suffering the economic and psychological consequences of that conflict, and with their populations loath to precipitate another European war over what many saw as Germany simply regaining its own territory, political appeasement resulted. Others expressed misgivings, pointing out that should Hitler's string of bloodless victories be allowed to continue, Germany's territorial area would grow beyond any containment a British blockade could effect and would eventually dominate Europe's economy.

In the aftermath of Hitler's 1938 annexation of the Sudetenland (western Czechoslovakia), under the pretext of protecting the region's ethnic-German majority, Poland similarly took control of the disputed Teschen region in southern Czechoslovakia in October 1938, much as it had done with Vilnius (Lithuania) in April 1919. Leveraging these 'Polonization' actions to his advantage, Hitler focused on reacquiring Danzig and constructing roads and railway lines to physically connect Germany with its isolated East Prussian territory. With Poland's Minister of Foreign Affairs, Józef Beck, unwilling to accede to such demands, on 15 March 1939 Hitler violated the Munich Agreement of 30 September 1938 and incorporated what remained of Czechoslovakia as a German protectorate. As Hitler moved to regain Klaipėda (Memel) in Lithuania and essentially restore Germany's 1870 borders, the Soviet Union partially mobilized its armed forces. British and French efforts to avoid another European war quickly disintegrated, and on 31 March Poland secured agreements with both countries for their military intervention should Germany invade. On 29 April Hitler ominously renounced Germany's non-aggression pact with Poland. Less than our months later, with Germany having secured a non-aggression pact with the Soviet Union on 23 August 1939, Hitler felt secure in ordering a full-scale invasion of Poland, set for three days hence.


3 September 1939
9 September 1939
Polish defensive lines
Klaipėda
Baltic Sea
Westerplatte fighting
Danzig
GERMANY
EAST PRUSSIA
Brda
Chojnice
Tuchola
Grudziądz
Flatow
Więcbork
Koronowo
Schneidemühl
Noteć
Bydgoszcz
Toruń
Nowogród
Osowiec
Bizerba
Ostrołęka
Łomża
Wizna
Białystok
Zambrów
Różan
Bug
Włocławek
Vistula
Modlin
Kutno
Bzura
Warsaw
Siedlce
Brześć
Łęczyca
Ozorków
Piątek
Łowicz
POLAND
Łódź
Pilica
Poznań
Warte
Dęblin
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N
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50 miles
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The Opposing Sides

DOCTRINE AND COMBAT ROLE

German

Building on the martial doctrines, traditions and philosophies that extended back to the 18th century, the Heer (German Army) of 1939 had adopted a number of combat-proven principles, and planned to apply them in the modern arena. To promote command-and-control flexibility, the Prussian formulation of *Auftragstaktik* (mission tactics) required subordinate leaders to provide their respective operational details to implement their commander's intended battlefield objective. As these officers had each undergone the same training regimen and were imbued with an accepted tactical and operational framework, they could be trusted to formulate an appropriate, timely solution best suited to mission success amid the chaos and fluctuating circumstances of the battle zone. This approach expedited the decision-making process and complemented the doctrine of *Bewegungskrieg* (war of movement), which emphasized the concentration of overwhelming force directed towards a *Schwerpunkt* (main effort). Following a breach of the enemy's defences, German forces would rush forward to exploit the penetration and target the enemy's softer communications and logistics zones to cripple his ability to effect resupply and coordinate resistance. With the emphasis overwhelmingly given to offensive operations (a feature reflected in official doctrine), any halt was seen as temporary and the time was to be used to good purpose, such as fixing the enemy in place, effecting resupply or reinforcing for further action. Ideally, offensive operations were intended to bring about a rapid conclusion to a campaign and thus avoid German armed forces becoming bogged down in a costly war of attrition.

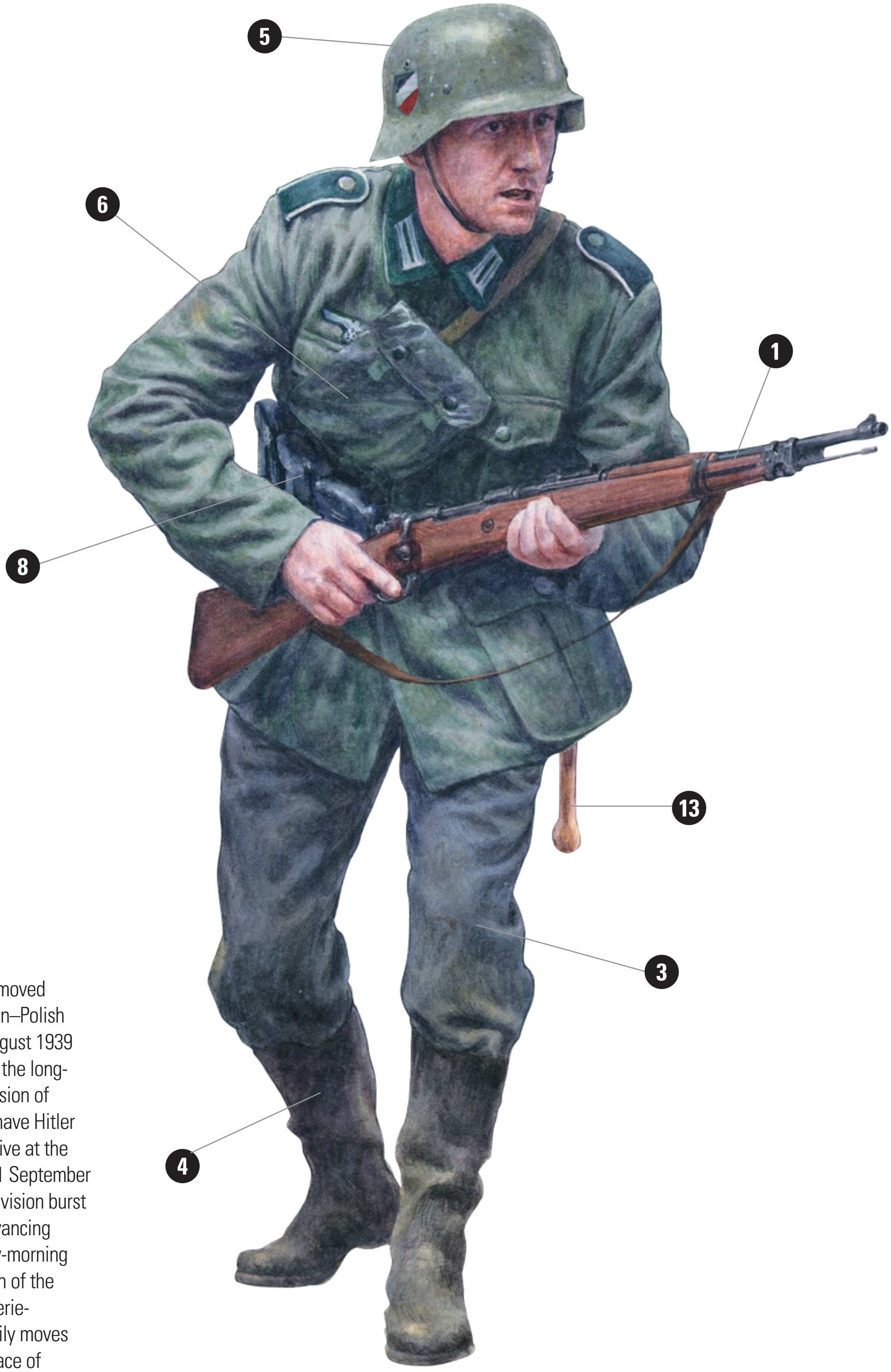
To maximize battlefield flexibility and economy of force, different unit types were trained to operate together in mission-oriented, ad hoc

Always walking. The overwhelming number of Polish and German infantrymen were foot-bound during the 1939 campaign. A high degree of physical fitness was necessary to maintain what could amount to dozens of kilometres covered each day. (NAC)

Kampfgruppen (battlegroups). Such close coordination in the battle zone allowed the strengths of one unit type to compensate for the deficiencies of another. While the Oberkommando des Heeres (OKH; Army General Staff) was of the opinion that German armed forces could be fully motorized by 1944 or 1945, other countries' armies would undoubtedly modernize as well. As such, when war in Europe began in 1939 the Heer was overwhelmingly reliant on foot-bound and horse-drawn movement and logistics – but so were its adversaries.

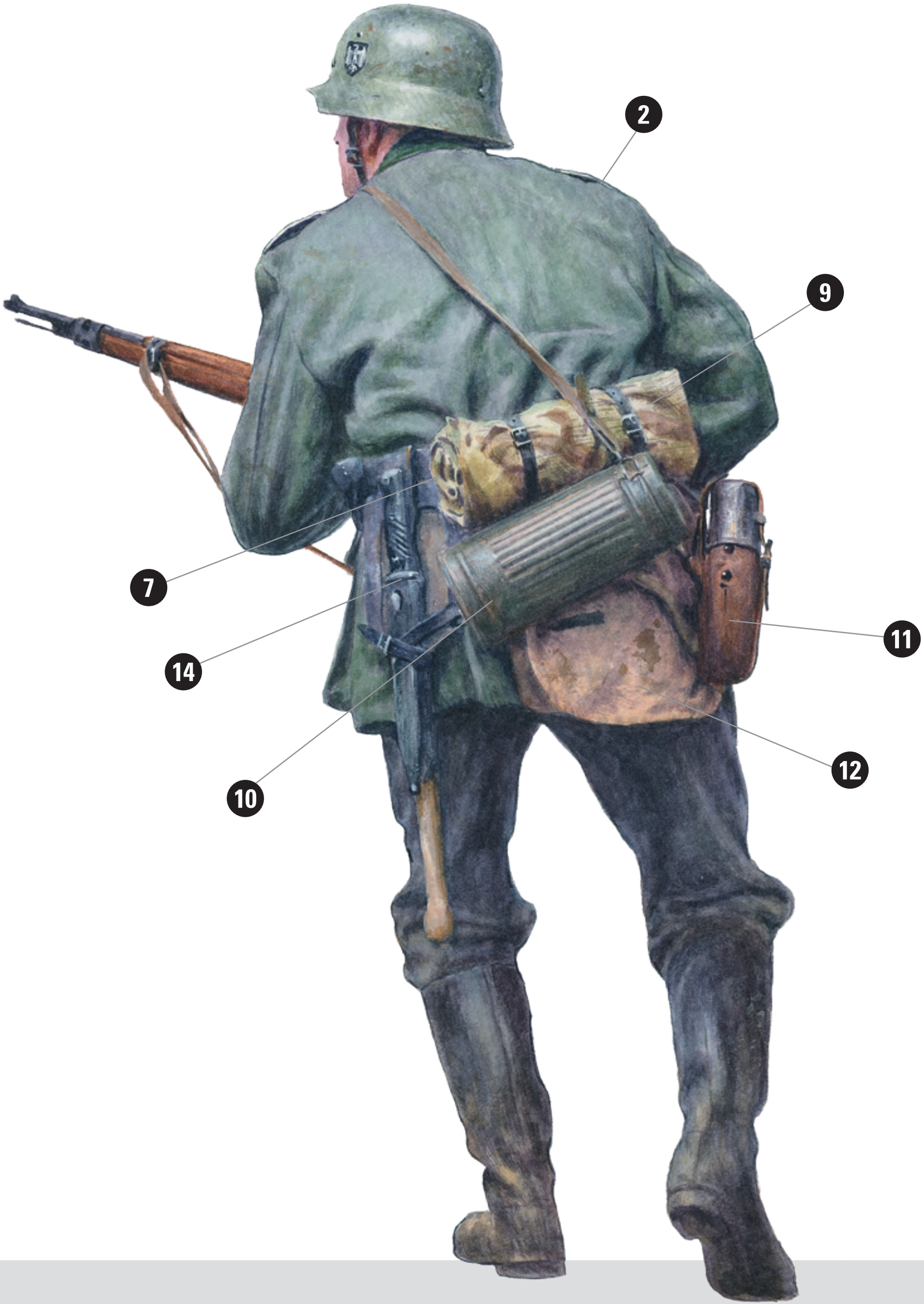
Although the original caption indicates a German infantry advance on a Polish village, on closer inspection only one soldier carries a rifle (which is slung). Note the wooden fence surrounding the compound. (NAC)

Schütze, Infanterie-Regiment 4



Having already moved up to the German–Polish border on 26 August 1939 to participate in the long-anticipated invasion of Poland, only to have Hitler abort the offensive at the last minute, on 1 September 32. Infanterie-Division burst into Poland. Advancing through an early-morning fog, this rifleman of the division's Infanterie-Regiment 4 warily moves forward in the face of sporadic Polish resistance.

Sępólno, 1 September 1939



Weapons, dress and equipment

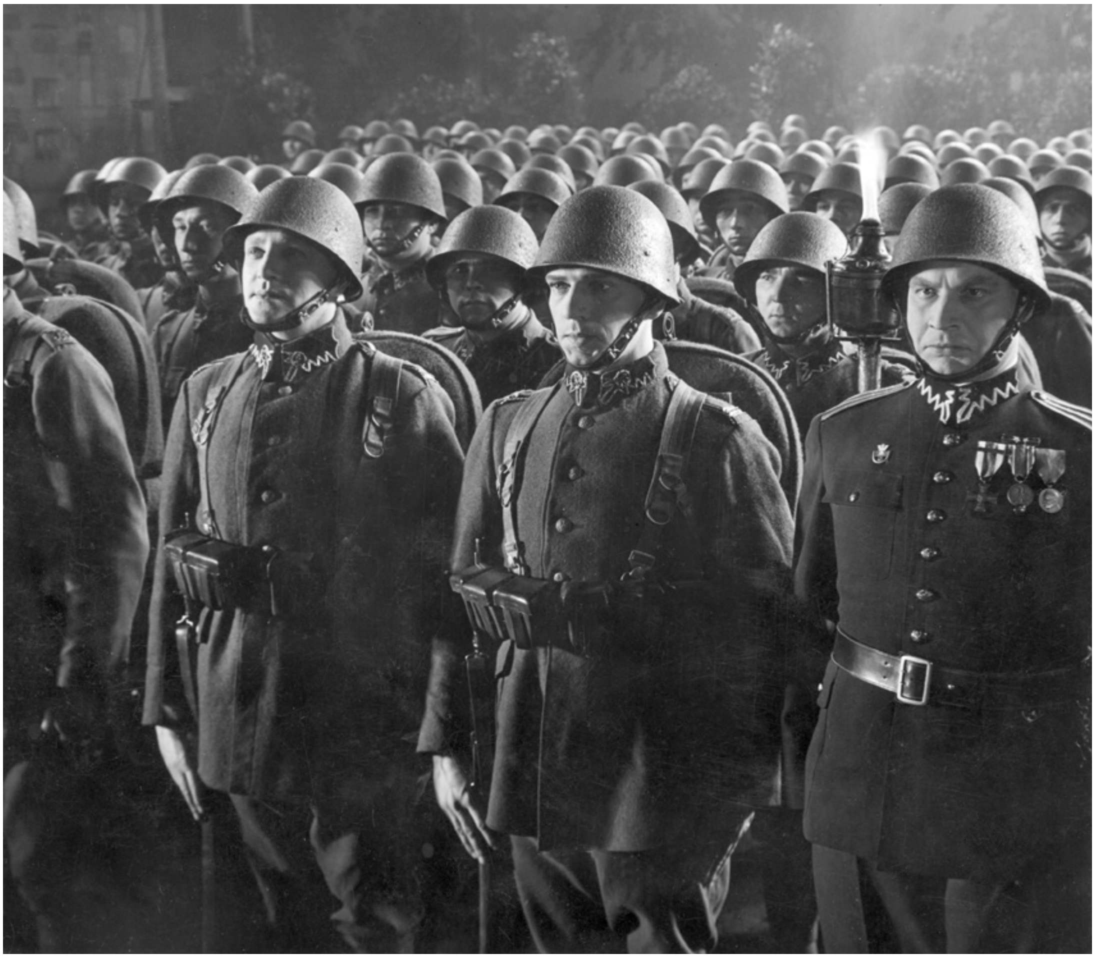
He is armed with a Mauser Kar 98k bolt-action rifle (**1**), a safe, sturdy and reliable bolt-action weapon carrying five rounds. Developed to circumvent the Versailles Treaty's prohibition against Germany producing rifles, the Kar 98k fired a 197-grain 7.92×57mm bullet at 760m/sec out to an effective range of around 550m over open sights.

He wears a field-grey *Feldbluse* (field blouse; **2**), stone-grey trousers (**3**) and leather marching boots (**4**). His helmet (**5**) is a Stahlhelm 35, with national colours (right) and silver eagle (left) shield emblems. He carries an anti-mustard-gas cloth (**6**) on his chest. His M1939 leather belt (**7**) supports ammunition pouches (**8**), a Zeltbahn 31 shelter-quarter (**9**) in *Splittermuster* camouflage, an M1938 gas-mask container (**10**), a Feldflasche 31 (canteen; **11**), a Brotbeutel 31 (bread bag; **12**), an M98/09 spade with M09 leather carrier (**13**), and an M84/98 bayonet with leather frog (**14**).

Polish

During the 1920s and 1930s Poland's largely agrarian economy and limited industry undermined the country's ability to compete militarily with its German and Soviet neighbours. By increasingly lagging behind these two potentially belligerent countries, the money and resources Poland could allocate to national defence were never enough to provide a comparatively modern fighting force, let alone the transportation network and production capacities necessary to weather a lengthy, attritional conflict. With Polish Army cavalry having been a dominant historical factor that had continued to prove itself in defeating the Soviet Union in 1920, it was perhaps understandable that during the interwar period the mounted branch would maintain its status and receive support to the detriment of other branches. Although Poland had been modernizing its military since 1936, over the next three years the country's defence spending equated to just 10 per cent of what Germany spent on the Luftwaffe during 1939 alone.

Given that Poland's western border extended far into that of a hostile Germany and that it would be difficult, if not impossible, to defend it for an extended period, efforts to strengthen the area of the River Vistula (Polish: Wisła; German: Weichsel) and those waterways around Warsaw were still



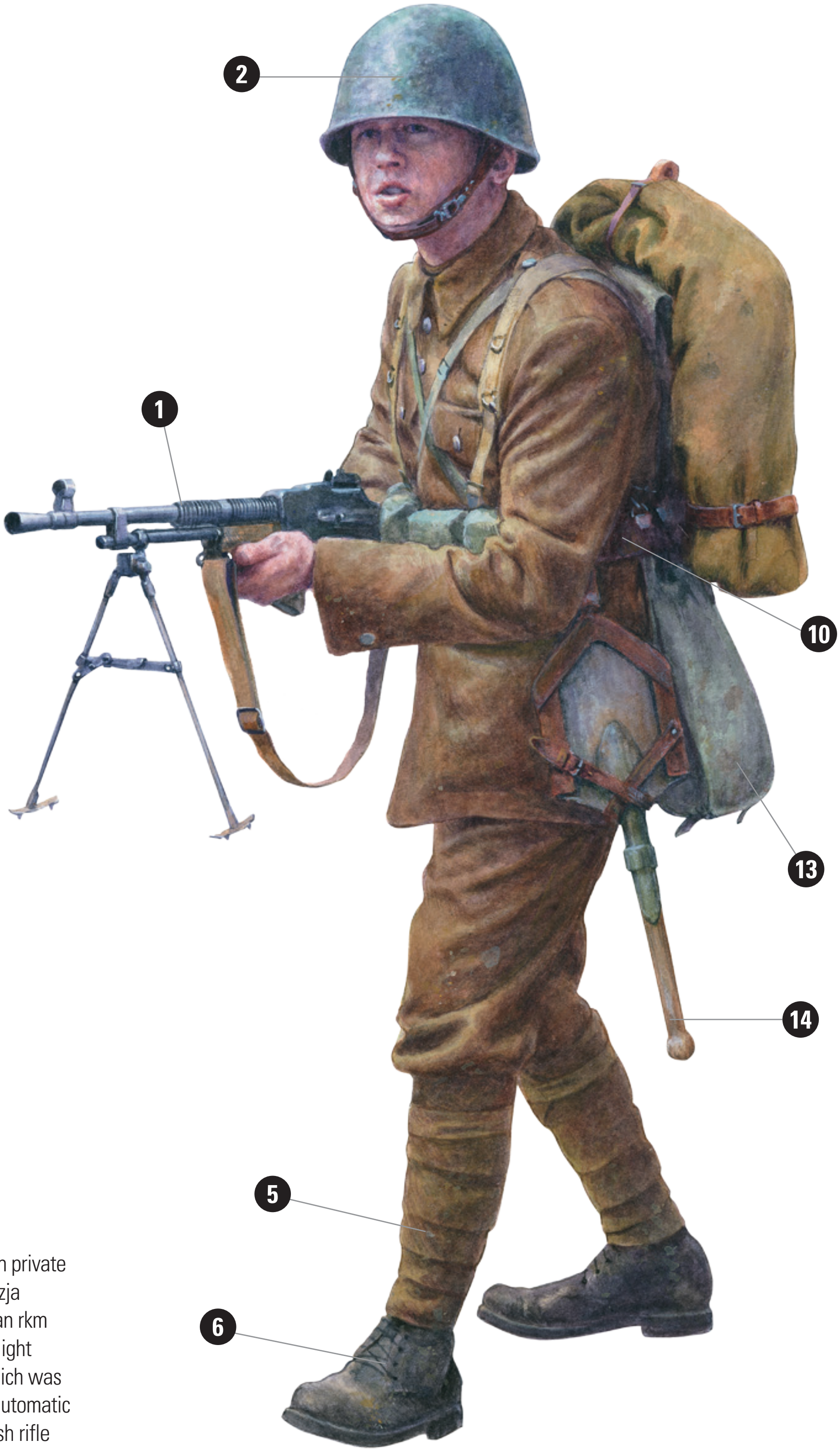
Polish infantrymen stand to attention during a night-time parade in what seems to be a propaganda image. The soldier on the right sports a Cross of Valour (Poland's second-highest award for battlefield bravery), the Commemorative Medal for the War of 1918–21, and a Medal for the Tenth Anniversary of the Restoration of Independence 1918–28. (Fox Photos/Getty Images)

ongoing when war commenced on 1 September 1939. By providing forward Polish Army forces with more defensible, centralized positions onto which they could fall back, a strategy of halting or delaying a German offensive until Allied intervention commenced seemed the best solution, considering Poland's great inferiority to its western neighbour in most matrices of war. Fortified zones were typically located along major rivers, and important urban or industrialized areas, such as Silesia, along the Upper Vistula, and around Łódź. A northern fortified line was similarly being developed from Modlin and along the River Narew to Łomża, terminating at Osowiec. Although this endpoint was some 80km from the Lithuanian border, the extensive swampland across the intervening area would hinder the movement of large conventional forces.

Infantry was the Polish Army's primary arm, with cavalry making up around 10 per cent of the manpower. The cavalry was primarily used as a mobile force whose main advantage was its manoeuvrability. Armed with anti-tank guns and heavy machine guns (HMGs), it fought dismounted, the horses being used for quick changes of position following an action. Neither Piłsudski nor his close associates had a military background; this was reflected in the condition of Poland's armed forces, which was exacerbated by the slow pace of modernization.

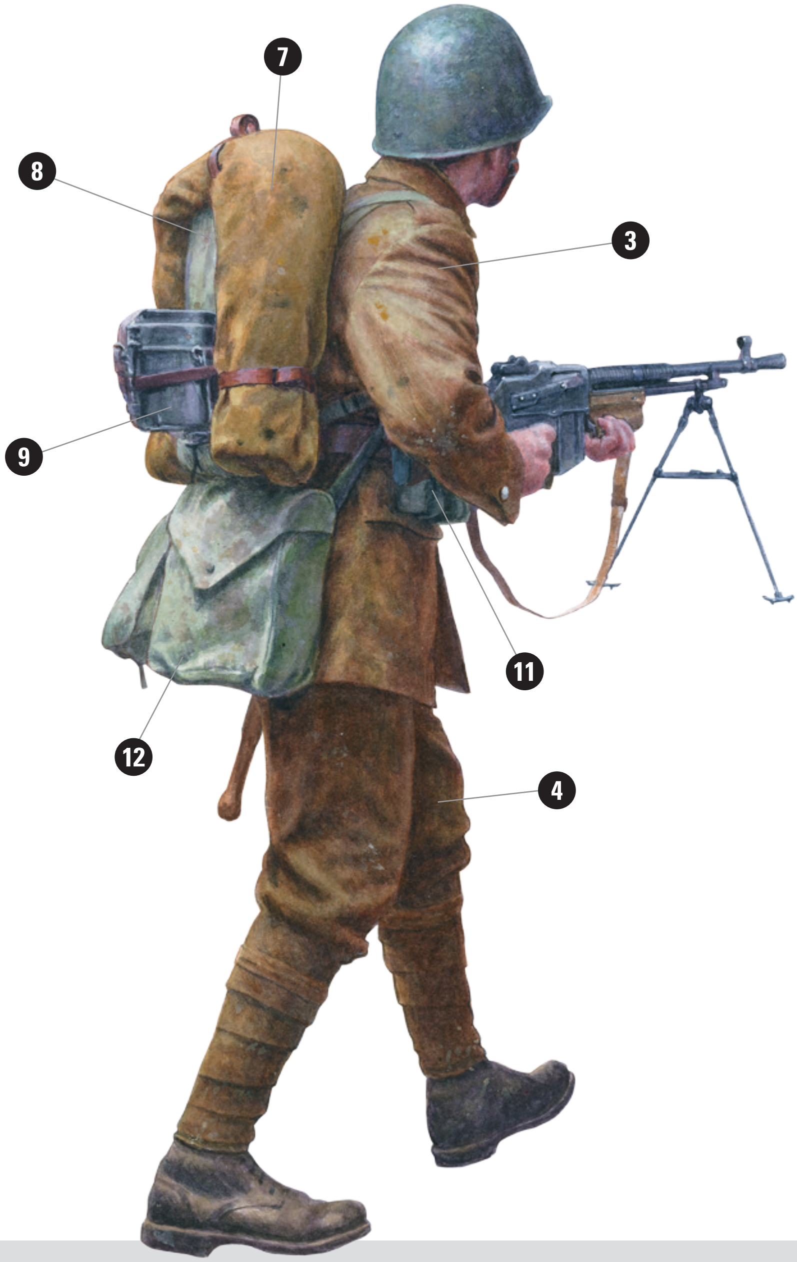
Although the cavalry force only comprised about 10 per cent of Poland's military, it received a disproportionate amount of the available resources and financing. With the cavalry viewed as the Army's elite, its officers typically received a high degree of martial education that often translated into assertive, unexpected combat operations. Note the sabre stowed laterally on the lancer's saddle. (Keystone-France/Gamma-Keystone via Getty Images)

Strzelec, 22 Pułk Piechoty



This heavily laden private soldier of 9 Dywizja Piechoty wields an rkm wz.28 Browning light machine gun, which was used to provide automatic firepower to Polish rifle teams.

Sępólno, 1 September 1939



Weapons, dress and equipment

The magazine of the wz.28 (**1**) held 20 7.92×57mm rounds, which travelled at upwards of 850m/sec and provided accuracy out to some 1,200m. The weapon was reliable and accurate, and could be disassembled for cleaning in under a minute. As with any rapid-firing weapon its barrel quickly overheated, but no option existed for making a change in combat conditions.

This soldier wears a wz.31 steel helmet (**2**) and wz.36 jacket (**3**). His trousers (**4**) are wrapped in cloth puttees (**5**) where they meet his high-top ankle boots (**6**), which minimized snagging when moving through overgrown terrain. His equipment includes a blanket (**7**), wz.33 backpack (**8**) and wz.31 mess kit (**9**). His leather belt (**10**) supports ammunition pouches (**11**), a wz.32 gas mask in a tarpaulin bag (**12**), a wz.33 bread bag (**13**) and an entrenching spade (**14**).

RECRUITMENT, TRAINING AND LOGISTICS

German

According to Germany's 1935 Military Service Law, conscripted 18-year-old men were to serve a six-month stint in a labour service, and on reaching 19 would serve a two-year military term. Although the country had only reintroduced conscription in 1935, over the next four years 1.3 million men were drafted, but perhaps more tellingly 2.4 million more volunteered for service. By the summer of 1939 Germany had trained 2.5 million soldiers.

Basic German military instruction generally occurred with the training units of the Ersatzheer (Replacement Army), with specialized schools and courses available for specific purposes, such as for officer and NCO candidates. Training specific to a soldier's branch of service, such as armoured troops or engineers, was also available. A training battalion organizationally mirrored its duty battalion and was intended to supply trained replacement personnel

For as much as the Heer's armoured and motorized forces were touted as the reason for Germany's tactical and operational victories, without logistics support providing regular shipments of petrol, oil and lubricants, food, replacement parts and equipment a war of movement would not have been possible. (Universal History Archive/ Universal Images Group via Getty Images)

A German field kitchen in Łowicz. A German infantryman's daily ration included three meals; officially, one-sixth of the ration was to be consumed for breakfast, one-half for lunch and one-third for supper. The soldier's duty class and the served item's component class determined what was issued. Verpflegungssatz I (Ration I), reflecting increased caloric needs, was intended for troops operating in (or having recently left) a combat environment, while three more categorizations provided decreasing amounts of calories commensurate with the duties of communication, garrison and administrative personnel. Soldiers on the march would often receive a ration of bread (with spread), cold meat or cheese, coffee or tea, sugar and six cigarettes that was not to be issued for more than three or four consecutive days. Iron rations could only be consumed after official approval and included biscuits, cold meat, preserved vegetables, coffee and salt. (NAC)

as needed. Infantry basic training was 16 weeks long and was divided into individual, squad and platoon phases to acclimate the recruits to a military regimen and accustom them to working as a team. Instruction included combat simulation, small-arms firing, lectures, drilling and sports, none of which required the anachronistic goose-step marching. On campaign, German infantrymen were expected to maintain a march rate of 5km/h. Subsequent training emphasized more specialized skills such as marksmanship and night operations, with the overall programme geared towards imbuing recruits with the necessary skills, endurance, discipline, mindset and camaraderie to fight a modern war effectively. As was typical of most basic training programmes of the era, brutality and harassment were common and were generally viewed as part of the acclimation process and a reinforcement of the military hierarchy.

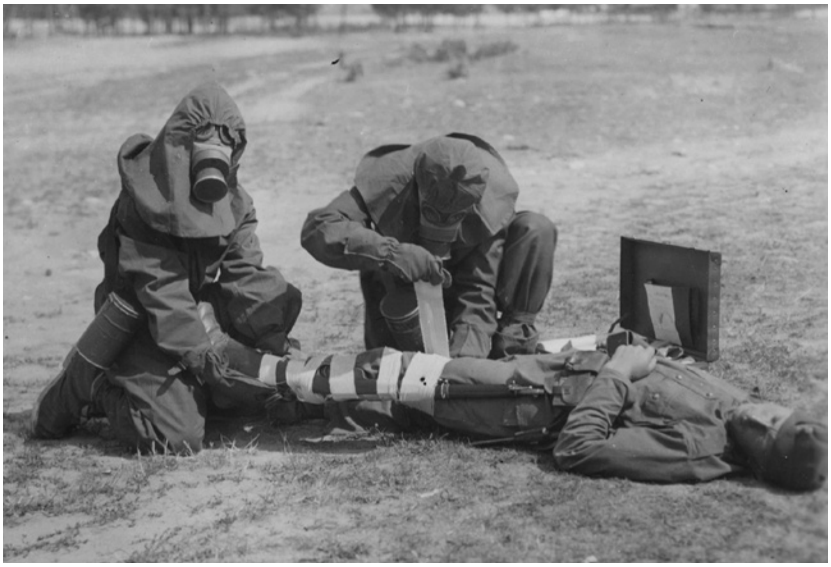
An indefinite period of advanced training often followed. After an introduction into a replacement unit, which was not located with the corresponding training unit, recruits were combined into groups to undergo a one- to three-week preparatory training period until they could be sent to their training unit. NCOs enlisting for either 12 years (active/professional) or 4½ years (reserve) could receive specialized training of varying durations at NCO schools as assault personnel, engineers, supply, ordnance and other technician specialists. Basic NCO training involved an initial four months of training followed by six more involving instruction in squad leadership in the particular branch of service.

Polish

The Polish Plan Mobilization 'W' (Wschód; East) was developed between 1935 and 1938 to facilitate fighting a war against Germany; given the increasing threat from the East, it was amended to include the Soviet Union as well. Activated on 23 March 1939 in response to Hitler's recent annexation of Bohemia and Moravia and (later) Klaipėda, it quietly allowed the Polish military the opportunity to ramp up their preparations and ensure that the country's stockpiles and defences were prepared should war occur. There were three mobilization phases; the Polish leadership correspondingly triggered 'Danger Alarm (secret)' to call up select formations, while avoiding hindering any ongoing diplomatic efforts to forestall a conflict. During this call-up letters were posted to individual soldiers in each of Poland's ten districts, each letter containing a green, brown, red, blue, yellow or black card indicating the assigned role of the soldier's unit. This activated four infantry divisions, one cavalry brigade and assorted smaller units, and was followed by another group during 14–16 August. With the prospect of war increasing, on 23 August 'Alarm (secret)' was enacted, which placed a further 15 infantry divisions and seven cavalry brigades, as well as the Polish Air Force and anti-aircraft units, in a state of readiness. Four days later, three more infantry divisions and two cavalry brigades were activated, which brought Polish Army strength up to three-quarters of its planned maximum. On 29 August the general mobilization was declared to provide the remaining formations, but under pressure from the government and French and British ambassadors it was cancelled, only to be declared again on 30 August. Possessing a pre-war standing army of 266,000 personnel on 1 September 1939, Poland had amassed some 430,000 soldiers who occupied their designated combat positions, with more than 100,000 additional personnel on the way – barring Luftwaffe intervention.

Polish regulations stipulated that military service lasting 24 months was mandatory for men aged 21 to 23 and voluntary for women. During mobilization the conscription age was lowered to 18, with 17-year-olds approved for service if not coerced and with their father's (or caregiver's) permission. Service in the reserves lasted 24 weeks for privates, 30 weeks for NCOs and 48 weeks for officers. Depending on their physical condition, those over 38 years of age were directed to the reserves, militia or support services within the Army. Soldiers who had already completed their basic military service – NCOs and privates younger than 40 and reserve officers under 50 – could also be called up. Officers older than 60 years of age could

A compulsory military education for Polish secondary-school students, as well as summer training camps and vocational instruction, helped prepare them for becoming NCO and officer candidates. The Przysposobienia Wojskowego shooting range in Kraków provided rifle firing practice. (NAC)



These pre-war Polish exercises in providing first aid in a 'mustard gas infected area' involve rescuers stiffening the leg of a wounded man using a wz.95 (Austro-Hungarian surplus Mannlicher M1895) rifle. As there was no guarantee that future combatants would refrain from using poisonous gas, the soldiers wear wz.24 RSC (French licensed ARS 1917) gas masks. (NAC)

also return to service during mobilization or war, but only if they wished to do so. All citizens aged between 23 and 60 who had not served in the Army could also expect to be called into military service, although in practice the Polish annual budget was insufficient to allow for all valid personnel to be mobilized.

The 30 active Polish infantry divisions trained their new personnel during the summer, with officer and NCO training commencing afterwards; there was a particular emphasis on night-time actions. Most Active Army infantry units consisted of recruits completing an 18-month training cycle, which started each March. Polish divisions were directly under army control, with operation groups usually substituted for a corps, and were under a local commander or division headquarters, and organized much as a battlegroup. There were nine reserve divisions, classed as such due to their comparative lack of supporting equipment such as artillery and anti-tank guns, or being staffed by older personnel.

Polish logistical plans assumed that the front line would move a maximum of 25km per day. In the event, units would lose cohesion because of transport shortcomings, given the distances travelled on campaign. Owing to Poland's limited industrial capacity only around 6,000 lorries were in use in 1937, of which the Army could expect to receive 1,500 on mobilization. At company level, three cooks were officially assigned for food preparation using a field kitchen and a kitchen cart, with much of their equipment, like the Army's weapons, foreign-made. In contrast with peacetime practice, in wartime Polish officers queued for food along with the soldiers. Once the war began meals often included items such as pea soup, porridge, canned fish, vegetables and goulash or bigos (hunter's stew), which were believed to provide the necessary calories and nutrition. Two cubes of cereal coffee with sugar were also issued. Should provisioning not be available for up to two days Polish soldiers were permitted to consume their iron rations – often a can of food and a packet of biscuits. With the Army fighting on home soil, Polish civilians regularly offered their soldiers locally grown potatoes, carrots and cabbage, as well as milk and cheese. As a last resort fish, wildfowl and other wildlife were hunted, along with other food found in the wild.

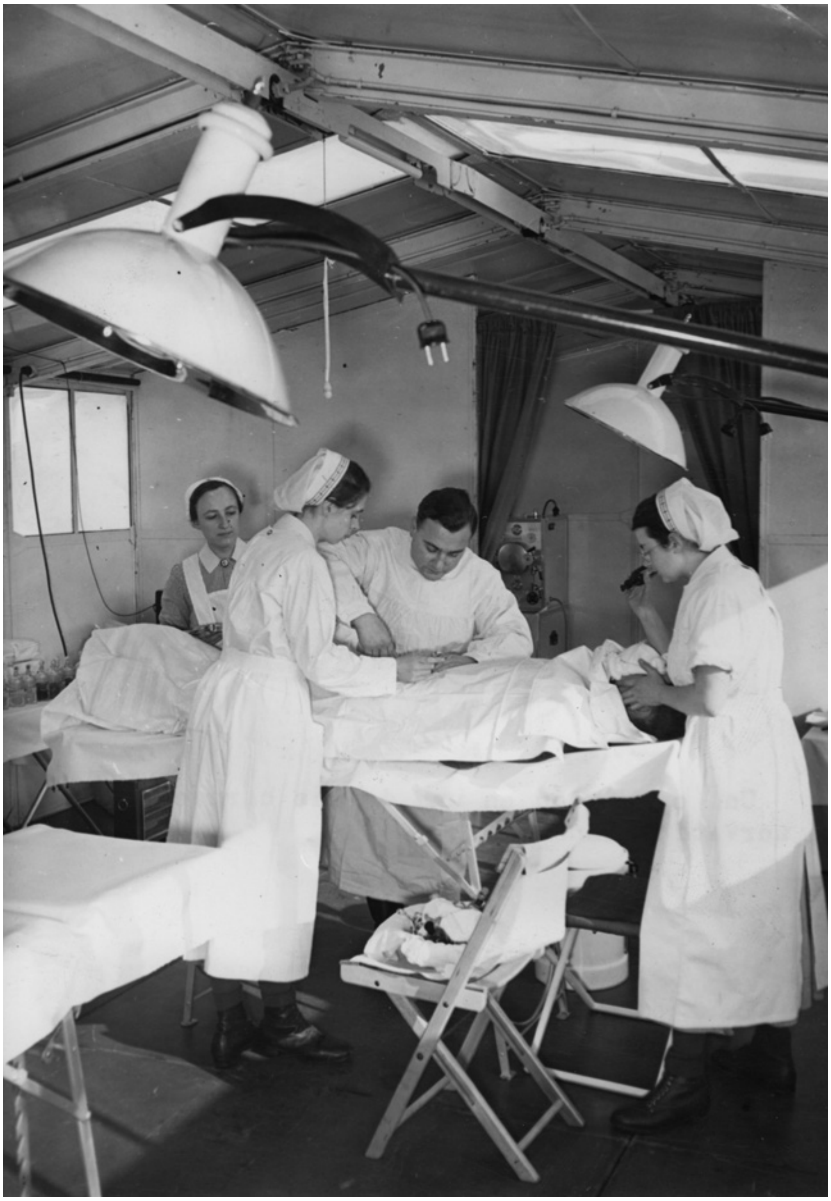
LEADERSHIP AND MORALE

German

Legally forbidden to possess a general staff, whose membership had historically been based on intelligence and merit rather than patronage or wealth, German senior commanders under the progressive, apolitical leadership of General der Infanterie Hans von Seeckt quietly maintained the entity under the cover-named Truppenamt (Troop Office). While the Reichswehr was limited to 96,000 men and 4,000 officers within seven infantry and three cavalry divisions, to maintain the constraints German military leadership simply cycled very select personnel through the institution, which over time produced a large pool of carefully groomed, mostly conservative officers and NCOs. Once free of the strictures of the Versailles Treaty these personnel would rapidly be available to assume leadership positions in what would be a much larger military. Averse to what was seen as a weak Weimar government, the Reichswehr leadership worked to maintain its historic place in German society, counter Germany's Communist elements and broaden popular support; activities accelerated with Hitler's appointment as Chancellor on 30 January 1933.

Following Hitler's renouncement of the Versailles Treaty's disarmament clauses on 16 March 1935, in which he publicly announced Germany's remilitarization, the Wehrmacht subsequently assimilated the Reichswehr. While this political-military relationship initially benefited both the Nazi Party and the armed forces, Hitler's steady usurpation of power and the broader influence of his politics increasingly permeated the historically closed German military establishment. Instead of swearing an oath to the state or Constitution, German soldiers and officers were to do so to the person of Adolf Hitler and those leaders he designated. This implicit bond and culture

The pink triangular sheet-steel pennant with the black cross (at bottom left) indicates the staff car of a Panzer division's commander. In this case Generalleutnant Leo Geyr von Schweppenberg provides a send-off for his 3. Panzer-Division heading to the Polish border on 1 September 1939. (NAC)



Typically located around 30km from the front line, the *Feldlazarette* (field hospital) possessed facilities for performing surgery and dentistry, and providing pharmaceuticals and X-rays. While such medical environments were naturally kept clean, given their proximity to the fighting ad hoc solutions were often needed, such as the medical instruments being stored in a chair. Note the anaesthesiologist dripping chloroform onto a towel covering the patient's face. (Nik Cornish at www.stavka.org.uk)

of duty throughout the German ranks would often come into conflict with what was demanded of soldiers in the field.

Throughout nearly the entire war the average German soldier maintained relatively high morale and a faith in senior leadership. Much of this stemmed from the historic symbiosis between Germany's civilians and the country's military. The soldiers serving in the Heer had also grown up in an unstable political and social environment, with propaganda and disinformation blaming Germany's difficulties on a host of internal and external scapegoats. In 1939, most ordinary German soldiers were convinced that their country possessed the moral high ground and believed in the justness of their cause in righting the perceived wrongs Poland had inflicted on their friends, family and nation.

Photographed during pre-war Polish manoeuvres, these soldiers wear French 'Adrian' helmets and wz.37 'rogatywka' field caps; one retains his kit, and another has covered himself with foliage. They appear to be armed with dated 7.92mm Kar 98AZ carbines, with the soldier on the right using a field telephone. (NAC)

Polish

After 1926 the Polish Armed Forces were organized to conform to a Piłsudski-implemented structure, with separate peacetime and wartime tracks under the War Ministry and the General Inspectorate of Armed Forces respectively, the latter being responsible for strategic war planning, especially in relation to France. Combining military and civilian leadership, the Committee for the Defence of the Republic provided coordination between the two groups; in wartime it was subordinated to the General Inspectorate's High Command. This division of leadership presented a rather complicated command structure that was difficult to implement efficiently. As commander-in-chief, Marshal Edward Rydz-Śmigły held total sway in the realms of Polish political and military life, which served to centralize control rather than promote decentralized decision-making and promote operational flexibility among senior commanders on the front line.

Polish lancers with their namesake weapons, by September 1939 used only for ceremonial duties. Although cavalry had historically been a dominant force in Poland's history, by 1939 it – as with any such horse-based combat formation – was no longer suited to use as a massed shock force in a modern war. During the 1939 campaign Polish cavalry was employed as mobile infantry, which dismounted to fight. Towed anti-tank and artillery guns accompanied such forces. (Keystone-France/Gamma-Keystone via Getty Images)

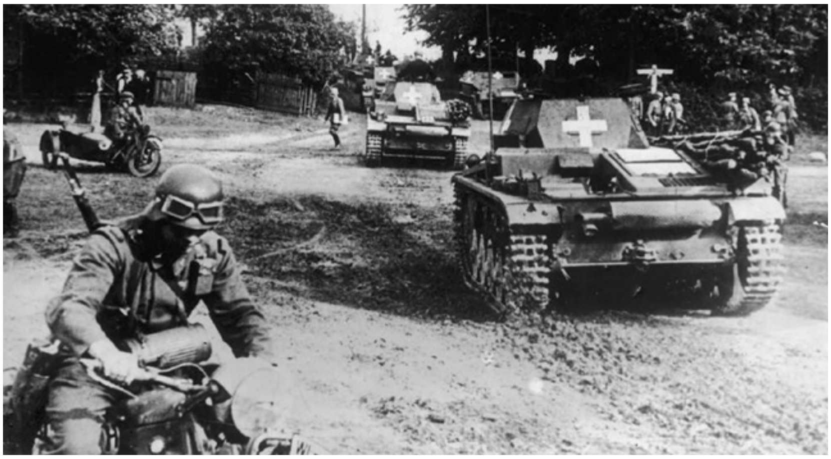
Polish ground forces relied predominantly on telephone lines to provide coordination on the battlefield. The Polish infantry battalion's 46-man communications platoon included a headquarters team that used five III-35/1 or III-35/2 telephones, with two allocated to one section using horse-drawn wagons for transport, and three telephones allocated to a second that lacked transport. The platoon could establish a communication network with four stations and a telephone exchange up to 18km distant, and included a radio correspondence section and air communication section using signal panels to mark friendly positions for Polish military aviation.

At the war's outset Polish morale was high, with the average soldier believing he held the moral high ground and was defending his national territory, and that the Polish Army's historic mainstay, the cavalry, would again prove decisive in defeating the enemy. As the Luftwaffe gained ever greater air superiority and was able to attack ground targets with a high degree of impunity, however, such views were increasingly challenged. Among the soldiers, platoon- and company-level officers were generally believed to be effective and held in high regard. Owing in large measure to Poland's limited finances and resources, leadership at higher echelons suffered from a lack of commensurate military instruction and experience directing large, multi-formation manoeuvres, and promotions based on political considerations rather than merit.

WEAPONS AND TACTICS

German

While armoured and motorized formations were best utilized in rapid tempo operations to run roughshod through an enemy's softer rear areas, Germany's foot-bound infantrymen were typically employed in less glamorous but critical roles that involved holding ground, sealing gaps in the front line and clearing territory. At the tactical level, when advancing under fire German infantrymen were to move in *Sprünge* (leaps), preferably from cover to cover, individually or as groups. When moving at night, silence was

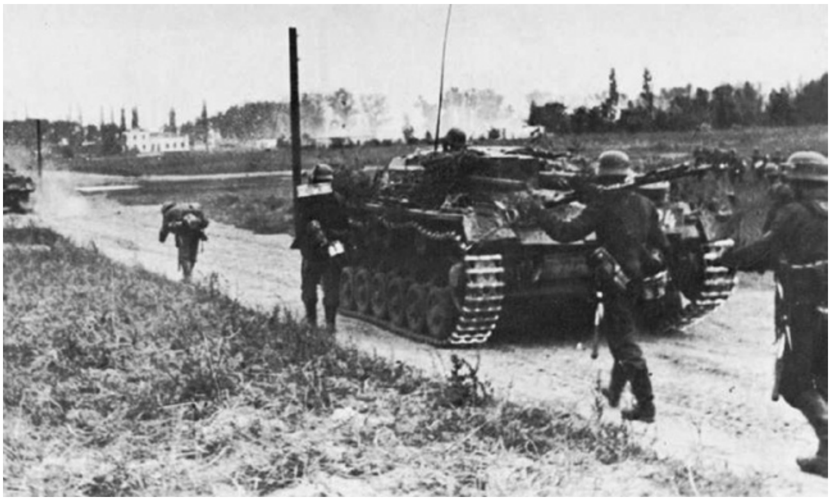


PzKpfw II light tanks on 1 September 1939. Note the fascines on the vehicles' starboard sides, which could be laid laterally ahead of the tracks to help extract the tank from soft terrain. An early SdKfz 251 Ausf A or B half-track armoured personnel carrier is visible in the distance. (NARA)

German infantrymen take shelter while their comrades investigate the nearest building. Each man's helmet has a strip of rubber (often from a bicycle tyre's inner tube) that could hold camouflaging foliage. The right-hand figure has a Panzerbüchse 39 anti-tank rifle, which fired a 7.92mm steel-tipped round capable of penetrating all Polish armoured vehicles out to 300m. (Nik Cornish at www.stavka.org.uk)

paramount and weapons were to be fastened and hobnailed shoes wrapped in cloth to avoid unnecessary noise. As the *Schützenreihe* (column) was preferred and more easily controlled, for such movement in darkness voice commands were abandoned in favour of emulating the man ahead, with the lead soldier encouraged to wear a white stripe on his back for a degree of visibility. When conducting reconnaissance, caps replaced helmets and only a firearm and ammunition pouches were carried to minimize weight. The *Gruppenführer* (section leader) was to fire the opening shot barring a pressing situation, and could order his men to use *Einzelschuss* (single-shot) or *Feuer Frei* ('at will') firing. To aid with personal camouflage, German soldiers would often rub mud on their steel helmets to reduce their shine, and mud or charcoal on their faces.

In the attack an infantry battalion typically had a frontage of between 400m and 1,000m, which provided sufficient room to manoeuvre and concentrate as circumstances required. With officers keen to attain the mission objective successfully, indirect assaults were naturally preferred to promote surprise, and concentration of effort and strength were employed to engage and exploit enemy weakness. The divisional commander would commonly organize his organic units, including the infantry battalions, into three or four operational *Kampfgruppen* that were respectively weighted for particular duties, such as reconnaissance, close combat or artillery support. During an engagement German infantry units sought to have their own lead elements of up to company strength use machine guns and mortars to pin an adversary down. Smoke would be used selectively to disrupt accurate enemy fire, and combat engineers would attempt to eliminate any hardened structures or obstructions; when appropriate, German infantry would commence an assault accompanied by a high volume of fire.

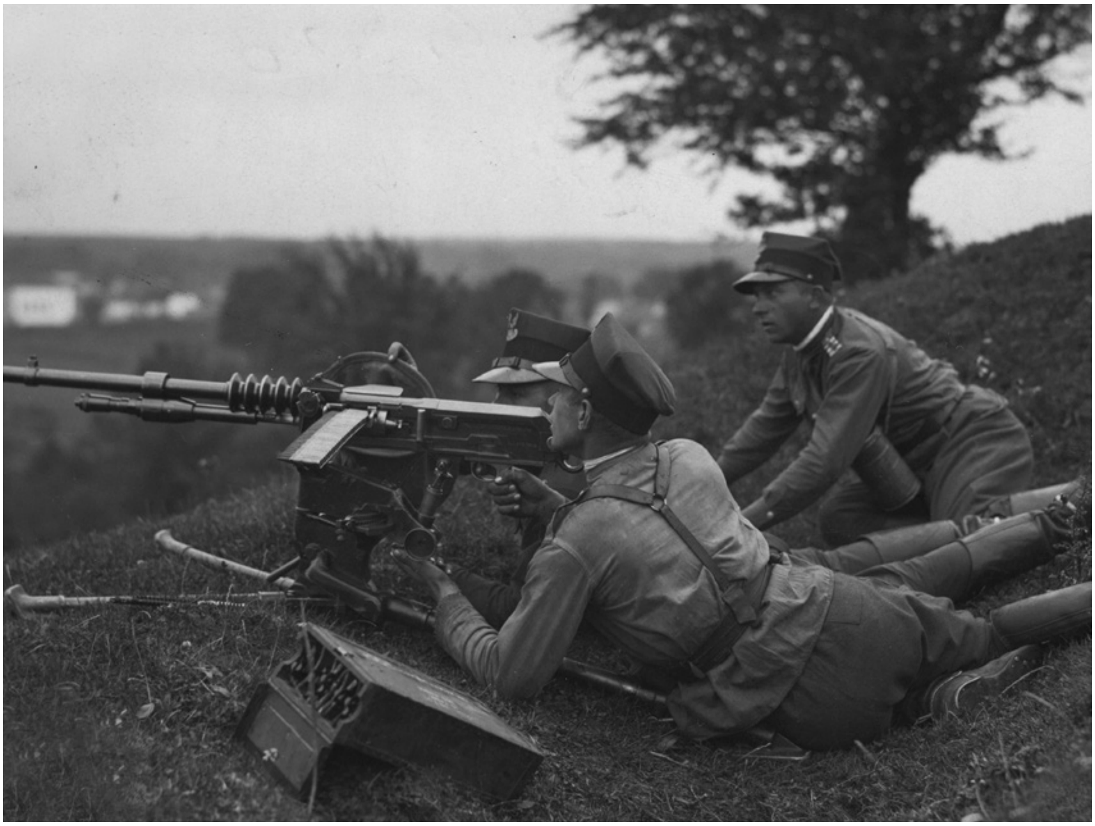


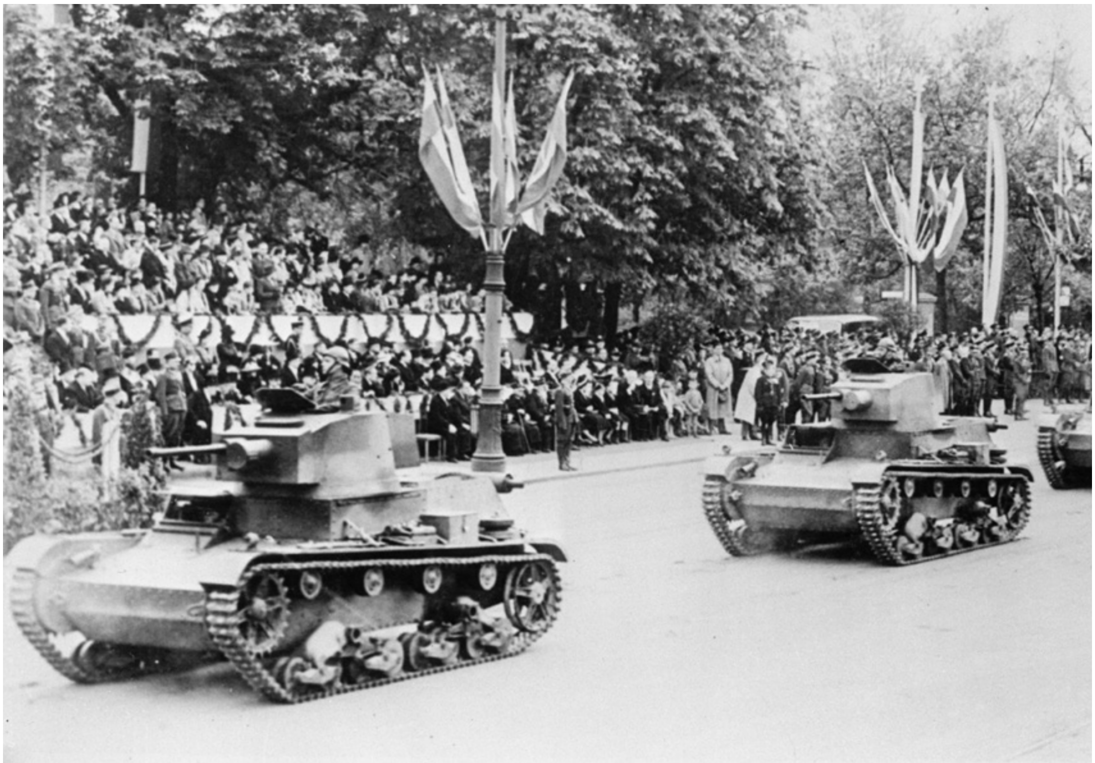
To provide infantry with armoured, direct-fire support against bunkers and built-up positions *Sturmgeschütze* (assault guns), such as these examples photographed on 1 September 1939, were built atop a PzKpfw III chassis. Lacking a turret, these vehicles could incorporate thicker armour without tasking the engine and transmission. (NARA)

Polish

Soldiers were expected to dig a prone firing position capable of protecting against small-arms and machine-gun fire and shrapnel within 35 minutes. Removed dirt would be used to form a curved parapet facing the enemy, with turf being repositioned to conceal the disturbed soil. Should the combat situation remain unchanged, without waiting for orders the soldiers were to dig a kneeling and then a standing firing position, which

This cavalry machine-gun team are using a 7.92mm wz.25, a derivative of the French Hotchkiss M1914, during an exercise in 1931. Note how the spent shells are caught in a bucket on the right side of the weapon. (NAC)





Based on the British Vickers 6-ton tank, the licence-built 7TP was Poland's best tank of the conflict. Its 37mm Bofors wz.37 gun was capable of besting what were essentially German training tanks pressed into front-line service. The heavier and better-armed PzKpfw III and PzKpfw IV, with their five-man crews, proved superior to the 7TP, however. These vehicles are parading through Warsaw on 11 May 1939. (Bettmann/Getty Images)

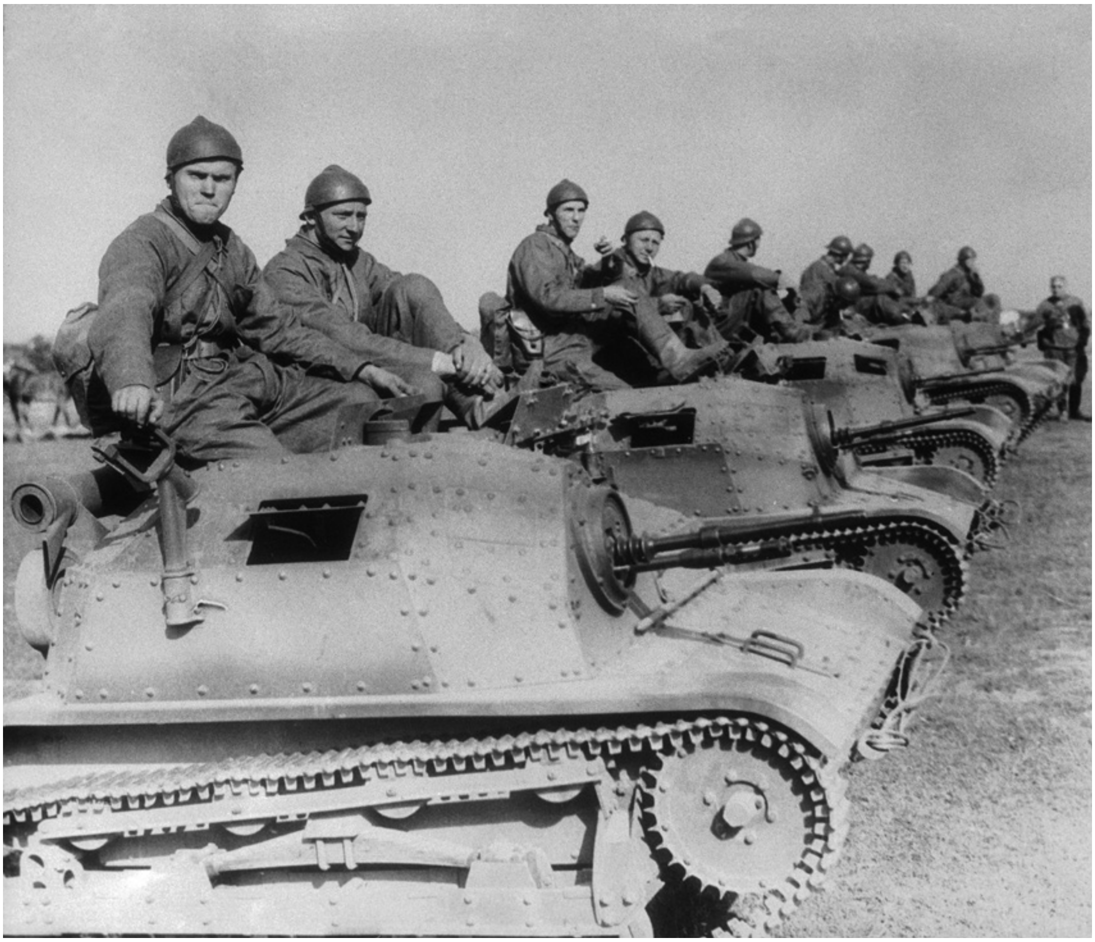
could take up to two hours, before expanding individual firing positions into trenches. Firing positions were also to be constructed prior to conducting an assault.

Although France provided a large portion of the Polish Army's equipment and much of its training and doctrine during the interwar period, the more fluid fighting in the East during World War I proved more influential among Poland's senior military leadership than the French emphasis upon a semi-static defence. Night fighting and improvisation were stressed in an effort to balance the Polish Army's numerical and technological inferiority to its German and Soviet adversaries. Addressing the threat posed by a mechanized or armoured opponent only received passing coverage, however.

Weapons were only to be fired when an order was given or when specific situations arose. Commands were to be repeated loudly and clearly, and include to whom it was directed. During an action a Polish rifleman was expected to inform his commanding officer when half of his ammunition had been used, and had to be able to account for his shots afterwards. During a daylight assault, 'Hura!' was to be shouted to give the impression of a crushing wave. At night such actions were to be conducted quietly, and with fixed bayonets. If a Polish attack failed the participants were to go to ground, defend fiercely, and not relinquish their position.

When fighting from a defensive stance, terrain features were to be measured for orientation prior to digging in. Drill against enemy armour was conducted to help acclimate the soldiers to such an event, with everyone expected to do so firing at the commander's cupola and vision slits. Accompanying enemy infantry was to be separated from the armour so as to impair their mutually beneficial cooperation. During a daylight reconnaissance mission a security section was deemed to be mandatory and was assigned to protect the rear from a distance of no greater than 400m. Guard duty was conducted in pairs, with at least one of the riflemen alert and standing, and smoking or saluting was prohibited. A Polish rifle platoon typically advanced in four columns; in a loose formation the rifle teams would be 75–90m apart, with the light-mortar section ideally located near the centre of the platoon.

The riflemen used the 7.92mm wz.98 bolt-action rifle, which was effective out to about 400m, or 600m if the target was static. 'Marksmen' were expected to be accurate up to 800m, or 1,200m with the aid of a telescopic sight. A smaller 7.92mm carbine, the wz.29, was also in use. The 7.92mm Browning wz.28 light machine gun (LMG), in somewhat short supply, was viewed as an infantry-support weapon and its use was to focus on eliminating enemy machine-gun positions. Every member of a rifle team issued the wz.28 was trained in its use, and under no circumstance was the weapon to be left behind. The bayonet/knife was preferred to a pistol during combat at night or in confined environments such as woods, trenches and buildings to reduce noise and facilitate command and control. Light mortars were used to engage targets such as machine-gun nests and to suppress enemy positions during a Polish assault.



Given Poland's limited finances and industrial base, military tankettes comprised the bulk of its armoured forces. Armed with a 7.92mm wz.25 machine gun, the two-man TKS had a maximum armour thickness of 10mm, providing protection against shrapnel and small-arms rounds but nothing more powerful. Each crew member wears a French 'Adrian' helmet with a simple padded band affixed to mitigate head injuries from getting jostled around inside a moving, cramped armoured vehicle. (Bettmann/Getty Images)

Cutting the 'Polish Corridor'

1–2 September 1939

BACKGROUND TO BATTLE

While Poland's senior leadership understood the futility of trying to defend the country's lengthy, sometimes overextended borders equally, they faced the dilemma of how best to protect their industrialized, overwhelmingly ethnic-Polish west, while also maintaining a sufficient military presence in the east to counter any unrest among its Soviet-agitated Russian and Ukrainian populations. With France and Britain having signed several agreements throughout the spring and summer of 1939 pledging to support Poland, as part of an anti-Fascist front of countries that included Turkey, Romania and Greece, should Germany invade the Polish leadership had decided on a strategy of conducting a fighting withdrawal from forward positions along the frontier. This would buy time for an outside allied intervention as a means to help incentivize Hitler to sue for peace.

As two of Poland's six army-sized formations that had recently been activated as part of the 23 March 1939 'Danger Alarm (secret)' notification and distributed along the nation's northern, western and southern borders, Armies 'Poznań' and 'Pomorze' (Pomerania) were respectively set well forward in western Poland and the so-called 'Polish Corridor' between Germany proper and East Prussia. With their country seemingly susceptible to German envelopment, the Polish leadership, like most of their European peers, felt the next war would resemble its predecessor in which large foot-bound and horse-drawn formations would conduct a slow, deliberate battlefield tempo. Should the fighting push Polish forces back, a defensive line that incorporated the rivers Narew, Vistula and San (Saan) would act as a stopgap.

As members of one of the four Polish infantry divisions secretly called up, 9 Dywizja Piechoty (DP; Infantry Division) personnel received blue

Personnel of 58 PP parade before General of Brigade Franciszek Wład and the head of the Military Department of the Provincial Office in Poznań, Władysław Błażewicz. (NAC)

cards designating those formations slated to defend sectors of the border with Germany. Within the required 72 hours after notification the men discreetly reported to their respective home stations located between Siedlce and Brześć (now Brest, Belarus) where uniforms, equipment, weapons and food were distributed from garrison warehouses. As the commander of one of 9 DP's three infantry regiments, Lieutenant-Colonel Franciszek Jędrychowski had the men of his 22 Pułk Piechoty (PP; Infantry Regiment) sworn in on the regimental banner. For the next few weeks such mobilized forces across Poland quietly worked to facilitate the transition to a war footing should an official mobilization order be issued. In the meantime, military exercises and training were conducted, field fortifications and trenchworks were constructed or modernized and existing stockpiles of fuel, ammunition and food were built up.

Considering the large area that Army Pomorze was to cover, given its rather limited numbers and resources, effecting a defence-in-depth sufficient to hinder German offensive actions would require prioritization and the orchestration of a flexible economy of force. Having been allocated to Army Pomorze's southern sector in early June 1939, Colonel Józef Werobej's 16,492-strong 9 DP was rail-transported from east of Warsaw to its operational zone, some 40km north-west of Bydgoszcz (Bromberg), with its 22 PP deposited at Mąkowarsko (Mönkenwerth). With Polish intelligence having identified several German formations arrayed along the base of the 'Polish Corridor', including 3. Panzer-Division, Army Pomorze naturally focused upon the defence of its southern sector. Here, 9 DP was situated along a 70km frontage between 15 DP along the River Noteć (Netze) and the cavalry of Grupa Operacyjna (GO; Operational Group) Czersk to the north. With the division's 34 PP centrally located in the open, hilly terrain north-east of Sokole-Kuźnica (Brahrode) as a reserve, 35 PP manned a 14km sector covering the western approaches to Tuchola (Tuchel) where the area's defences were only about 20 per cent complete. Along Werobej's southern flank, 22 PP occupied a 23km line of defences along the River Krówka Lakes and west to the German border.

To optimize his defence Jędrychowski established 22 PP along a main and a forward defensive line that included rifle trenches, with some having been expanded into limited networks. Barbed-wire fencing was positioned astride likely German approach routes, but no accompanying anti-tank mines or obstacles were placed. Having been deployed in the Więcbork (Vandsburg) area, I/22 PP blocked the main road to Sośno (Soßnow). With 3/22 PP occupying the hills and woodland near Śmiłowo (Schmilau) and astride the Więcbork–Sośno railway line, 1/22 PP continued the defensive line by placing its three platoons from Suchorączek (Suchoronczek) to the north-east; 2/22 PP served as a reserve around Młynki (Mühlenkawel), along with 5/9 Pulk Artilerii Lekkiej (PAL; Light Artillery Regiment) and its four venerable, horse-drawn 75mm mle 1897 cannon. Because the Poles were keen to avoid presenting a thin, inflexible defence that could be easily penetrated and outmanoeuvred, a gap from north of Wałdowo (Waldau) to Sokole-Kuźnica – nearly 20km – existed south of 9 DP's headquarters at Tuchola. Although this area was mostly wooded and movement was impeded by tributaries of the River Brda (Brahe) and narrow dirt tracks, it was by no means impassable for a large, motivated enemy force.

During the German build-up for the Polish Campaign (*Fall Weiß*; 'Case White'), Generalleutnant Franz Böhme's 32. Infanterie-Division spent early August 1939 concentrated near the Polish frontier in the vicinity of Flatow and Preußisch-Friedland (now Złotów and Debrzno, Poland). To mask the formation's purpose, staff personnel presented their activities as the construction of border crossings, and for the next three weeks work progressed to build a 30km fortified line between these towns.

With Hitler having set X-Hour (hostilities commencement hour) for 0430hrs on 26 August, at 2000hrs on 24 August the soldiers of 32. Infanterie-Division set off for their assembly positions and steeled themselves for what appeared to be imminent action, while all along the roughly 2,800km border with Poland most of their 1.5 million comrades performed similar actions. Owing to France and Britain having pressured Poland to delay official mobilization to avoid appearing provocative and hindering ongoing peace efforts with Germany, the 600,000 men Poland fielded at the start of hostilities represented roughly 70 per cent of the planned maximum.

At 2030hrs on 25 August, 32. Infanterie-Division's staff established a command post in a copse just south-west of Zeschau (now Cieszów, Poland) to be closer to the border and better direct the coming fight. Communications were promptly established with the divisional vanguard, Infanterie-Regimenter 4 and 96, as they and other divisional elements and vehicles demonstrated excellent march discipline en route to their respective sectors, making a minimal amount of noise. With Hitler having learned earlier in the day that Britain had signed a treaty with Poland agreeing to provide military support should Germany invade, however, he suddenly halted the campaign deployment. At 2150hrs a message to this effect arrived at General der Infanterie Adolf Strauß's II. Armeekorps headquarters at Flatow. Liaison officers quickly informed Strauß's subordinate formations, which by 2230hrs were returning to their previous positions having narrowly averted triggering a war. For nearly a week II. Armeekorps remained in place and busied itself with improving its border

Dispatch riders were always in demand during an advance to provide direct communications when wired or wireless options risked security or latency delays. To keep the mud and muck at bay German motorcyclists typically wore a waterproof canvas overcoat, featuring a collar that could be turned up, and buckled and leg straps to keep the lower hem in place. (Nik Cornish at www.stavka.org.uk)

positions and trying to maintain a state of readiness. The staff of 32. Infanterie-Division relocated to nearby Linde, while those of Infanterie-Regiment 96 and Infanterie-Regiment 4 remained at Gross Butzig and Conradsfelde (now Wielki Buczek and Czyżkówko, Poland) respectively. With tensions again rising, on 28 August civilians living along the frontier were ordered to evacuate the Grenzräumung West (Border Area West) and three days later H-Hour was again ordered, this time for 0445hrs on 1 September.

General der Panzertruppe Heinz Guderian's XIX. Armeekorps, located just north of Böhme's command and tasked with helping to cut the 'Polish Corridor' across its base and trap much of Army Pomorze, served as the primary strike force, fielding 20. and 2. Infanterie-Divisionen (mot.) and 3. Panzer-Division. To the south, II. Armeekorps would provide flank protection, while III. Armeekorps advanced along the River Noteć. Having moved eastwards with little difficulty to the River Lobsonka, which marked the border, the 17,734-strong 32. Infanterie-Division assembled within 'Kujaner Heide', a wooded heathland named for the nearby village, and once again awaited the order to attack.

Cutting the 'Polish Corridor', 1–2 September 1939

MAP KEY

1 **0440hrs, 1 September:** 32. Infanterie-Division crosses the 1919 border into Poland around 10km west of Więcbork.

2 **0800hrs, 1 September:** Polish border guards withdraw from their forward positions across the Flatow–Więcbork road and along the wooded Zakrzewska–Osada lakes.

3 **0800hrs, 1 September:** Elements of 22 PP position themselves around Więcbork to disrupt any German advance along the road to Koronowo.

4 **0900hrs, 1 September:** With Infanterie-Regiment 96 having taken Radońsk against minimal resistance, Infanterie-Regiment 4 cuts through Lutowo (Groß Lutau) to take Sępólno.

5 **Late afternoon, 1 September:** With 32. Infanterie-Division approaching the River Brda, I/22 PP conducts a fighting retreat to the Wąwelno (Lindenwald) area against Infanterie-Regiment 50 (3. Infanterie-Division).

6 **0630hrs, 2 September:** Infanterie-Regiment 96 pushes into the main Polish defensive line ahead of Koronowo.

7 **Morning, 2 September:** Capitalizing on Kradschützen-Abteilung 3 having crossed the River Brda north of Sokole-Kuźnica, 3. Panzer-Division begins pushing east in strength.

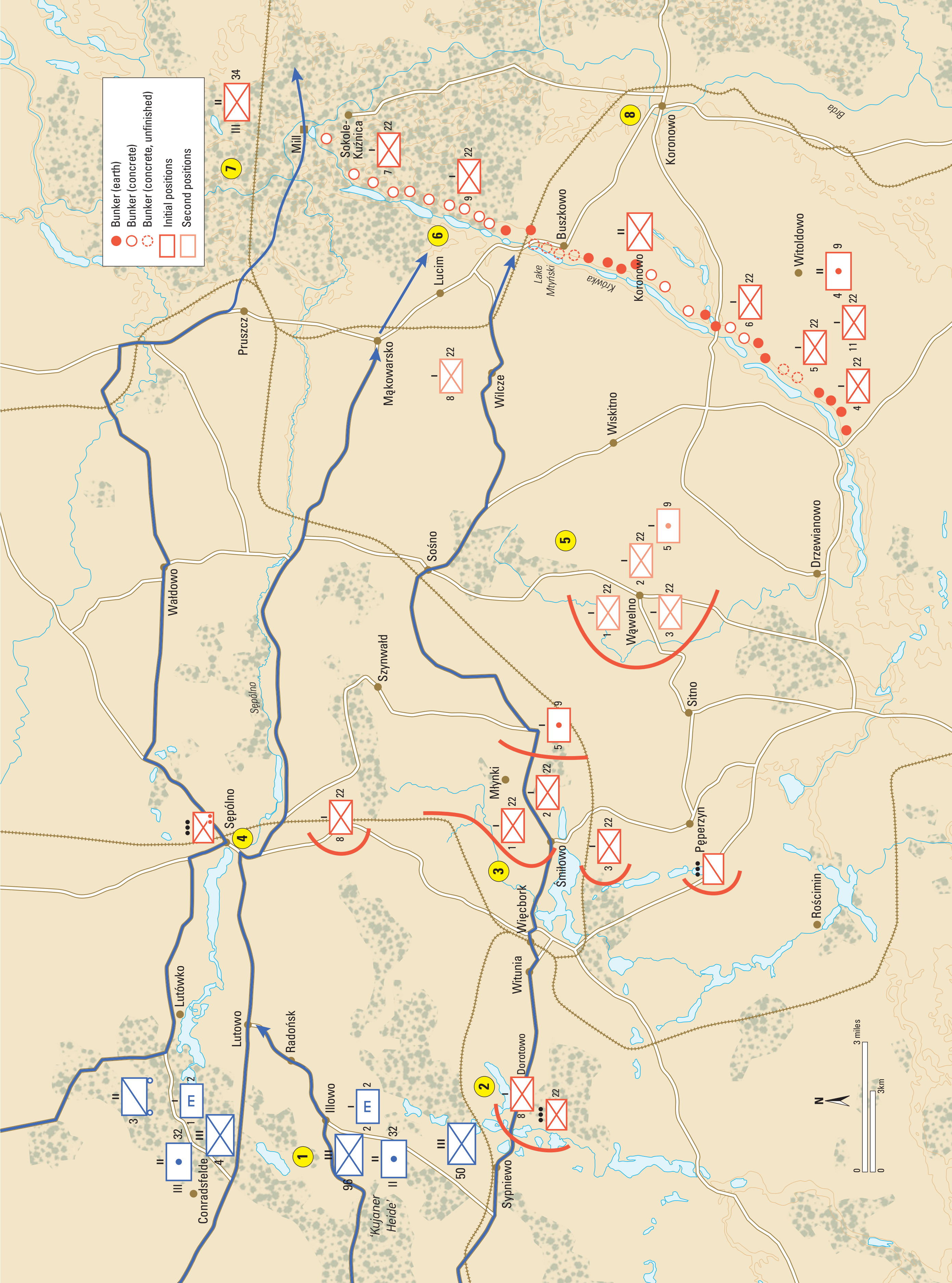
8 **2000hrs, 2 September:** With 9 DP's counter-attack to expel German forces from Koronowo having failed, elements of the division begin to withdraw towards Bydgoszcz.

Battlefield environment

With Guderian's armoured and motorized XIX. Armeekorps tasked with rapidly conducting 4. Armee's primary thrust to sever the 'Polish Corridor', to the south of Guderian's corps the predominantly foot-bound II. Armeekorps would advance in parallel, and try to keep up. Assigned to a lengthy sector along Army Pomorze's southern sector, 9 DP distributed its resources in what depth it could to slow a German attack and buy time to participate in a coordinated counter-attack.

During the mornings of 1 and 2 September, the air temperature was around 15°C, with fog having enveloped much of the area's lower elevations before burning off around 0900hrs. The daily highs rose to around 25°C, with partly cloudy skies.

A view of the inverted-bowstring railway bridge over the River Brda at Nowogród. Some 6km east of 9 DP's main defensive line along the River Krówka, the town was the site of 22 PP's headquarters at the opening of hostilities. (NAC)


Bunker (earth)
Bunker (concrete)
Bunker (concrete, unfinished)
Initial positions
Second positions
1
2
3
4
5
6
7
8
Mill
Sokole-Kuźnica
Koronowo
Buszkowo
Lake Młyński
Krówka
Brda
Witoldowo
Lucim
Pruszcz
Mąkowarsko
Wilcze
Wiskitno
Sośno
Drzewianowo
Wałdowo
Sępólno
Szynwałd
Wawelno
Sitno
Młynki
Śmiłowo
Pęperzyn
Więcbork
Witunia
Rościmin
Lutówko
Lutowo
Radońsk
Illowo
Conradsfelde
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INTO COMBAT

To provide sufficient provocation for initiating an invasion, German SS and Abwehr intelligence personnel conducted several 'false flag' actions on both sides of the Polish border during the night and into the morning of 1 September. As 32. Infanterie-Division patrols approached the border they unknowingly passed Polish outposts that had been quietly placed just inside Germany, which reported the activity. In response to what appeared to be an imminent attack, Werobej ordered 9 DP to assume combat positions. Between 0200hrs and 0300hrs, teams of Abwehr saboteurs similarly engaged a platoon from Border Inspectorate No. 8 'Dorotowo', 18km south-west of Więcbork. Like all of Poland's initial line of defenders they had been put in the unenviable position of having been expressly ordered to refrain from engaging the enemy until the border had been physically penetrated. With the Polish government averse to any such action that could be construed as a provocation the border guards were only granted permission to reciprocate at 0400hrs.

At 0445hrs, Infanterie-Regiment 96 and Infanterie-Regiment 4 to its left (north) finally crossed the border along a rather narrow frontage, taking a main route and a country road respectively to advance into the flat West Prussian farmland beyond. Soon afterwards, Infanterie-Regiment 50 (3. Infanterie-Division) engaged an advance platoon from Major Jan Poborowski's I/22 PP at Sypniewo (Zippnow). At 0500hrs, 9 DP's headquarters began receiving reports that German armoured forces were breaching the border and advancing on Sępólno (Zempelburg), a situation confirmed by Polish aerial reconnaissance. In response Werobej ordered 34 PP forward to plug the gap, which it did by placing 1 and 2/34 PP into positions near Pruszcz (Prust). By 0630hrs, around the time that Polish radio broadcast a recorded message, 'So war it is', Infanterie-Regiment 4 advanced against harassing fire from withdrawing Polish patrols to take Lutowo, while Infanterie-Regiment 96 and accompanying divisional staff elements secured Radońsk. Congested, dusty roads and thick fog hindered the foot-bound German infantry's ability to engage suspected Polish positions, as did the recent blowing up of the bridge at Sypniewo. As evidence of the slow Polish communications, 6/9 PAL only received word of the German offensive at 0730hrs, by which time other Polish forces had claimed to have knocked out three German armoured cars, but were otherwise falling back. Hopelessly outnumbered and never intended to offer a determined stand, elements from Border Inspectorate No. 8 began withdrawing to 22 PP's thinly held forward defensive line by 0800hrs.

Although the area's dozen or so lakes along the River Lubcza's path and the adjacent woods offered the Polish defenders at least minor obstacles to incorporate in their effort to break up and funnel 32. Infanterie-Division's advance, the Poles prudently chose to withdraw. Having been created in 1936, as part of the first, post-1935 waves of mobilization, 32. Infanterie-Division was composed of active peacetime professionals, unlike German infantry divisions activated later, which included trained reservists, Landwehr (militia) or supplementary personnel. Owing to the rapid Wehrmacht expansion available *matériel* was prioritized towards these initial infantry divisions to provide them with the most modern weaponry and equipment, while maximizing vehicle uniformity to facilitate maintenance and resupply.

Polish Air Force crewmen are pictured with their PZL.37 'Łoś' ('Moose') medium bombers shortly before the commencement of hostilities. Fewer than 100 of these versatile aircraft were available during the Polish Campaign. Owing to its double-wheel design it could use rudimentary airfields, a feature that initially prevented the Luftwaffe from targeting them. (Keystone-France/Gamma-Keystone via Getty Images)

With the forces of Army Pomorze stretched thinly and the proximity to the border having prevented anything more than token resistance, Infanterie-Regiment 50 (3. Infanterie-Division) had little trouble pushing through to Więcbork, some 3km to the east. Large numbers of German sympathizers – among them former German citizens – who lived around Chojnice (Konitz), Bydgoszcz and along the River Noteć, many of whom had suffered discrimination or abuse under Polish rule, turned out to welcome the German forces. In an effort to minimize damage to their homes, businesses and communities these *Volkdeutsche* often displayed white sheets from their properties to indicate an absence of resistance. Such actions were generally a matter of timing, so as to not draw the attention of the Polish military or civilian partisans before they vacated an area.

With his II. Armeekorps pouring eastwards, Strauß was with 32. Infanterie-Division when at 0900hrs its personnel secured Sępólno, vacated by soldiers from a platoon of 9 DP's bicycle company and a heavy machine gun (CKM, ciężki karabin maszynowy) platoon 30 minutes beforehand. Having wished to hold 34 PP in reserve until the German offensive unfolded, Werobej had placed 9 DP's bicycle company in the gap between 35 PP and 22 PP to provide badly needed 'eyes' on the area. Sępólno was an important road hub that would facilitate the movement of German combat and logistics forces over the River Sępólna (Zempolno), but its single bridge had been blown up; this presented the Germans with only a temporary setback, however, given their general advance eastwards. Having moved through the area, elements of Aufklärungs-Abteilung (mot.) 3 (3. Panzer-Division) were already pushing for Wałdowo and the inadequately defended Polish sector beyond, although some reconnaissance elements, and Panzer-Abwehr-Abteilung 32 with its dozen 3.7cm anti-tank guns, remained to cover 3. Panzer-Division's extended southern flank. Although elements of 9 DP's bicycle company engaged armoured vehicles west of Wałdowo the lightly armed Poles avoided remaining for long. Considering the freedom of manoeuvre the Germans enjoyed they were able to skirt such hindrances with little effect on the rapid tempo of their advance. A more immediate problem stemmed from a Polish Air Force aircraft strafing 32. Infanterie-Division, but it was soon shot out of the sky.

A Polish soldier in a moderately camouflaged position. (NAC)

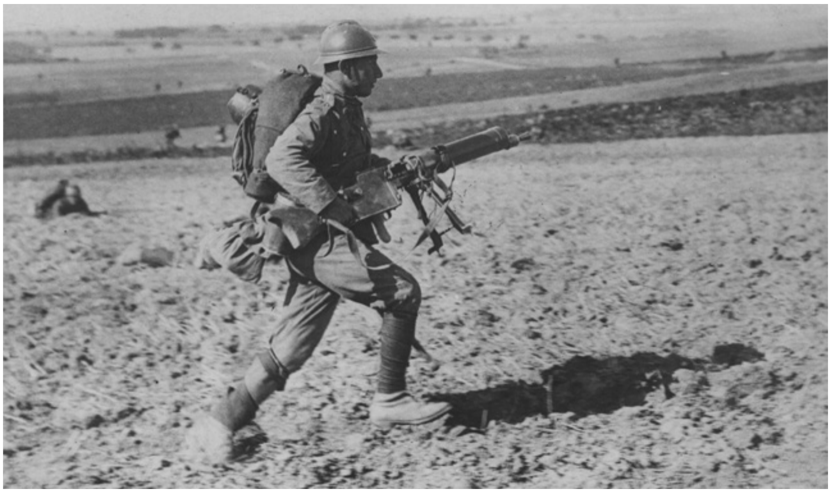
At around 1000hrs, 8/22 PP fought a 30-minute engagement near Wałdowo where it reportedly destroyed several German tanks before retreating. Some two hours later, 22 PP's hanging northern flank was increasingly compromised by Guderian's onrushing vanguards, but also by 32. Infanterie-Division, which had pushed east of Miłogoszcz (Hohenfelde) and Więcbork. Severely outnumbered, and with Infanterie-Regiment 50 advancing directly against the much smaller I/22 PP, the Polish infantry regiment had little choice but to conduct a fighting retreat from its exposed location at around 1330hrs and make for the Wąwelno (Lindenwald) area, from where it would continue the fight. By 1400hrs, 9 DP's forward units fell back to the relative safety of the string of lakes extending south-west from Sokole-Kuźnica to near Gleźno (Hohenwalde). Just east of these obstacles, Major Władysław Mizikowski's III/22 PP had established positions within 9 DP's primary defensive line. Although Infanterie-Regiment 96 had just secured a wooded isthmus between two lakes just east of Mąkowarsko, the line of reinforced-concrete bunkers seemed to offer the Poles the opportunity to halt II. Armeekorps' advance – at least temporarily – and provide necessary breathing space to formulate a more coordinated Polish response. With the German advance having unfolded sufficiently to provide the Poles with a clear idea of their enemy's main effort, 34 PP moved up to plug 9 DP's deployment gap. With only 8/22 PP holding this sector, I and II/34 PP provided a northern arm near Tuchola, while III/34 PP advanced along the main road, now a few kilometres west of the River Brda.

By early afternoon, advance elements of Generalleutnant Leo Freiherr Geyr von Schweppenburg's 3. Panzer-Division reached the Brda and simply stopped. With Panzer-Regiment 6 having arrived in the area, a subsequent clash with I/34 PP resulted in three German tanks being knocked out. With 3. Panzer-Division's commander directed to meet Generaloberst Fedor von Bock, the commander of the cover-named 2. Armee – redesignated Heeresgruppe Nord (Army Group North) on 2 September – the division's forward units halted to rest and assess Polish strength. Obviously displeased with any such halt, Guderian ordered the motorcycle reconnaissance forces of Kradschützen-Abteilung 3 to continue the pursuit and maintain pressure on the repositioning Polish defenders. Guderian was also notified that a bridge just north of Sokole-Kuźnica that Polish engineers had recently built using the surrounding timber had been briefly set alight to prevent its use to the Germans; in the event, the unseasoned wood used in the construction failed to burn adequately before German armoured forces extinguished the flames. In concert with combat engineers, 2./KradAbt 3 crossed the Brda in rubber rafts and floats some 3km south of the railway line. KradAbt 3's remaining elements coordinated with the contingent in a surprise assault that succeeded in capturing the defending bicycle troops and establishing a small bridgehead.

To maintain German command and control well forward during what remained a largely uncontested advance, 32. Infanterie-Division's headquarters relocated to Polanowo (Eichfelde) at 1500hrs. Over the next two hours its elements attacked 22 PP's increasingly fragmented northern flank where III/22 PP struggled to organize a defence. Unaware of German personnel having reached the Brda, Werobej continued to focus on the threat to his front.

General of Division Władysław Bortnowski, having been overruled after expressing reservations that his Army Pomorze was expected to defend such an exposed position, performed as well as he could given the handicaps under which he commanded and fought. With the Germans having committed to an advance axis intended to cut the 'Polish Corridor', at 1000hrs Bortnowski had ordered 27 DP, as well as GO Czersk and other formations north of Guderian's advance axis, to move south towards Bydgoszcz to create a more manageable battlespace and enhance the concentration of Polish forces. By the afternoon, portions of 27 DP were moving through 9 DP's rear when, having become sufficiently concerned by Guderian's unexpectedly rapid progress, Bortnowski began to organize a counter-attack, which if successful would hinder the German drive short of the River Vistula and maintain communication with Polish forces to the north. To coordinate the operation 27 DP's commander, General of Brigade Juliusz Drapella, met Werobej to address the worsening battlefield situation and formulate a plan to push the Germans back across the waterway in an attempt to re-establish the former Polish defensive position. Should the committed units of 27 DP and 9 DP fail, both infantry divisions were to strike into the similarly threatened area around Koronowo to the south.

Returning to the elements of 27 DP that had gathered in the high, open terrain around Sokole-Kuźnica, Drapella awaited the arrival of German



A Polish machine-gunner participating in what looks like a training exercise wears a French 'Adrian' helmet, puttees and kit that includes a wz.33 blanket, wz.31 mess kit, entrenching shovel, RSC gas mask and canister and a wz.33 bread bag. (Keystone View Company/FPG/Getty Images) reconnaissance forces probing their way out of the extensive woods and along the Tuchola–Sokole-Kuźnica road – the only suitable route for heavy German vehicles for several kilometres up and down the Brda. Prior to contact, however, Bortnowski issued a new march route for 27 DP, which was to now use road and rail transport to head for the Bydgoszcz sector once again. Strung out along several roads between the oncoming Germans and the Vistula, the Polish infantrymen and their supporting personnel were exhausted by the day's marching. In the confusion many, including Werobej, remained unaware of the change in plans and 9 DP subsequently fought a losing battle against not just 32. Infanterie-Division, but elements of 3. Panzer-Division in its deep northern flank, and 3. Infanterie-Division pushing in from the south.

Having advanced towards Mąkowarsko, at 1800hrs Infanterie-Regiment 4 and Infanterie-Regiment 96 were ordered to push on to reinforce the captured ground between the lakes immediately south of Sokole-Kuźnica. With its bicycle and horse companies, Aufklärungs-Abteilung 32 set off to secure the targeted area, but as darkness fell the reconnaissance force halted, although the advance German element, 9./IR 96, pushed on to its destination where the company immediately dug in as protection against Polish machine-gun fire. With Infanterie-Regiment 96 having moved ahead to Mąkowarsko, Infanterie-Regimenter 94 and 4 halted after what had been as exhausting a day of marching and fighting as that experienced by their Polish adversaries.

To the south, Infanterie-Regiment 50 had caught up with I/22 PP during the afternoon. Following a fight that lasted until 1800hrs, Poborowski withdrew once again, this time to 9 DP's main defensive line. The Germans had made good progress while sustaining few casualties and retaining high morale, but Strauß and his senior commanders believed that the Poles would offer a stubborn defence along the string of bunkers behind the River Krówka and opted to delay continuing the German advance until dawn to rest and reorganize.

Unable to keep up with the Germans' rapid battlefield tempo, and faced with vanguard elements of 3. Panzer-Division once again rushing eastwards, 9 DP's rather jumbled units withdrew behind the Brda where the forested terrain provided them with a degree of protection. Although 3. Panzer-Division had advanced to within 20km of the Vistula, considerable gaps remained through which Polish forces continued to slip, although maintaining formation cohesion was increasingly difficult. Personnel of 22 PP and 35 PP were ordered to retreat. Once darkness fell at around 2000hrs, many of 9 DP's battered units began to disengage and make for Bydgoszcz. With Guderian's advance having prompted 27 DP's continued movement southwards and away from the Sokole-Kuźnica area lest major portions of the division be cut off and lost, III/22 PP's northern flank was again left hanging and 35 PP steadily became trapped to the north. With Guderian bisecting what remained of 9 DP, its 22 PP was transferred to 15 DP, which was defending Bydgoszcz's northern approaches.

Considering the Polish Army's over-reliance on telephone lines on a constantly changing battlefield, Jędrychowski struggled to get timely intelligence and coordinate his command, and remained largely unaware of 35 PP's plight. Instead of waiting for his weakening command to be destroyed piecemeal, late in the evening he decided to continue forward with

Intended to perform roles that cavalry had historically performed, armoured cars such as this eight-wheeled SdKfz 231 (shown here about to pass a captured Polish roadblock), operated alongside motorcycles and other fast, manoeuvrable elements to conduct reconnaissance and screening tasks. This vehicle possessed the same semi-automatic/automatic 2cm KwK 30 L/55 as the PzKpfw II light tank, which could ravage infantry and soft-skinned vehicles, and effectively engage similarly thin-skinned Polish armour. (NAC)

a counter-attack to recover some of the territory lost near the Brda, even though 27 DP was no longer participating. Although I/22 PP's soldiers were fatigued by their 30km fighting withdrawal, II/22 PP and 34 PP remained largely uncommitted. While Jędrychowski organized his force, however, III/22 PP was falling back from its positions west of Koronowo, and began to intermingle with those assembling, with predictable results. Unable to restore 22 PP's recently occupied positions, Jędrychowski postponed launching his counter-attack until 2 September and ordered 22 PP to pull back its flanks and assume a defensive stance in the woods near Koronowo. The defending 7/22 PP had already lost one-third of its combat effectiveness and the renewed German advance pushed the Poles off the road leading to the bridge over the River Brda. Surprisingly, Polish morale, at least with I/22 PP, remained high even though the situation now seemed lost.

With 4. Armee and 3. Armee having captured nearly half of the 'Polish Corridor' in just 24 hours, at 0400hrs on 2 September Guderian's forces were east of the Brda and behind 22 PP. Having travelled more than half the distance to the River Vistula over the same period, 32. Infanterie-Division renewed its eastward advance at 0630hrs, and soon after Infanterie-Regiment 96 fought its way into what had recently been 22 PP's main defensive line. Infanterie-Regiment 4 followed suit at 0715hrs, but took care to not inflict 'friendly fire' casualties on two reconnaissance patrols that had yet to return from their duties. With artillery support, German forces moved into the isthmus having incurred few casualties, and against expectations encountered minimal resistance. During the early morning, elements of 9 DP, 27 DP and the Pomeranian Cavalry Brigade counter-attacked positions held by Hauptmann Fritz Beigel's 1./PiBtl 39 near Sokole-Kuźnica and its water mill where the River Krówka branched from the Brda. Having achieved surprise along the road to Świekatowo, the Poles were able to make decent progress that threatened to isolate Aufklärungs-Abteilung 32 in its forward positions.

On the isthmus, II./IR 8 (3. Infanterie-Division) struck the Buszkowo area, where 9/22 PP had its command post, at about 0900hrs; 6/9 PAL prudently withdrew. An hour later the Germans seized the isthmus on the northern edge of Lake Mtyński (Mühlenteich) where the Mąkowarsko–Koronowo railway line and the Sępólno–Koronowo road passed. With III/22 PP's southern flank

German *Pioniere* (combat engineers) are pictured during assault training. Note the specialized canvas assault packs that housed a pair of smoke pots (top) and a 3kg boxed demolition charge (bottom), in addition to a mess kit. (Nik Cornish at www.stavka.org.uk)

buttressed against the railway line, the regiment soon retreated amid what had become a steady stream of Polish men and equipment heading for Bydgoszcz. As if the existing pressure on 9 DP was not enough, reconnaissance elements from the reserve 23. Infanterie-Division suddenly appeared. At around 1130hrs, II./IR 8 broke into the Polish defences around Buszkowo, although a friendly-fire incident involving supporting German artillery prompted a 30-minute pause in the German attack. Companies from III. and I/22 PP had already retreated 2km to the east. Dwindling reserves of ammunition, close-quarter combat and reports of sabotage in the rear only added to the fear and confusion that permeated the Polish ranks.

With II. Armeekorps preparing to establish a presence along the Vistula, at around midday Bock and Strauß watched German forces advance into the wooded, broken terrain between Serock (Schirotzken) and Glinki (Neu Glinke). As Infanterie-Regiment 96 moved through Serock, Polish forces suddenly opened fire and forced many of the German infantry into the relative safety of the village. In the confusion several German soldiers mistakenly believed Polish civilians were to blame and fired indiscriminately into the surrounding buildings until stopped by nearby officers and NCOs. By midday the Polish counter-attack at Sokole-Kuźnica had ceased, but a lack of fuel prevented elements of 3. Panzer-Division from mounting an effective pursuit. To the south, brief Polish resistance from their main defensive line, including machine-gun fire from several bunkers and fortifications, halted the direct German assault to penetrate the area.

With so much of 9 DP having pulled back from the immediate battle zone, and having had no contact communication with 22 PP since the morning, there was little more Werobej could do than call a general retreat to avoid the destruction of his command. Not every Polish unit defending from the bunkers received the order and most fought on until they were overrun. At 1530hrs 27 DP began its attack, I and II/35 PP advancing on Klonowo, with particularly heavy fighting against I./IR 9 breaking out around the railway station. Towards evening 35 PP struck one last time, with machine guns and snipers providing support, but by 1700hrs 9 DP's advance had stopped. With the Poles having little hope of stemming the German tide, the order was given at 2000hrs to initiate a coordinated withdrawal towards Bydgoszcz.

As the front line moved closer to Bydgoszcz bands of ethnic-German civilians operating as *Volksdeutscher Selbstschutz* ('ethnic self defence') cut telephone lines, ambushed Polish soldiers with small-arms fire and grenades, and conducted acts of sabotage and arson along what quickly became a funnel through which Polish forces escaped southwards. To provide a degree of protection for these ethnic-German groups and bolster Germany's security interests, they were naturally located in the 'Polish Corridor' where they maintained communication with Abwehr and other German security services. When the time came to act, these civilians were in an optimal position from which to provide irregular, indirect support of conventional German forces. Some 250km to the south-east, the General Staff of the Polish Armed Forces' Department II (intelligence and counter-intelligence) issued Report No. 2, stating that armed bands of ethnic-German civilians had attacked Polish residents near Grudziądz (Graudenz). As part of their duties of preparing defensive positions and providing security in the majority ethnic-German areas, Polish forces conducted searches of German-owned farms and property, often looting them in the process. In other areas *Volksdeutsche* filtered westwards seeking safety among German forces, and provided intelligence on Polish military dispositions and defences.

As a result of the rapid German advance, numerous groups of bypassed or lingering Polish soldiers were captured. Only a small number could be fed immediately with the resources possessed by the German combat units. Although 9 DP had suffered 40 per cent casualties over the last three days, many of its units managed to evade capture in the still-porous wake of the German spearheads, although 34 PP had dwindled to battalion strength. Having suffered heavy losses, 35 PP also escaped the pocket on 5 September. What remained of 9 DP near Bydgoszcz withdrew to the south-east to where Polish forces were concentrating along the River Bzura to continue the fight.

German combat engineers are pictured during assault training. Here, what is probably a 3kg demolition charge is being emplaced using a pole to insert it within some particularly wicked barbed wire prior to destroying the obstruction. (Nik Cornish at www.stavka.org.uk)

Łomża and Nowogród

7–10 September 1939

BACKGROUND TO BATTLE

To cover Army Modlin's eastern flank and block any German offensive across the East Prussian frontier, General of Brigade Czesław Młot-Fijałkowski's Samodzielna Grupa Operacyjna (SGO; Independent Operational Group) Narew deployed along the River Narew and its Biebrzański tributary to near the Lithuanian border. Because the Polish Army lacked a defined formation level between division and army, these operational groups served the purpose of a corps. SGO Narew was allocated a pair of cavalry brigades to operate near the isolated, largely untouched frontier, with 18 DP and 33 DP (composed of reservists) set further back behind the two defended waterways. As these rivers represented the only major geographic barrier between the East Prussian border and central Poland, the defenders needed to make every effort to hold the crossings at Różan, Ostrołęka, Nowogród, Łomża, Wizna and Osowiec. With these urban areas having long held such importance, each location had several dated but still effective concrete-based bunkers and fortifications. Outmanned and outgunned, the Poles well understood the importance of keeping the Germans from advancing beyond the frontier. In concert with the Polish Army's broader operational approach, SGO Narew was similarly tasked with delaying German forces arrayed against it and preventing a breakthrough.

Having received their blue mobilization cards on 23 March 1939, much of 18 DP's personnel set about upgrading the fortifications along that division's sector of the River Narew. As one of the division's three infantry regiments, 33 PP was responsible for a 65km sector beginning at Pniewo, where the extensive swampland to its east would dissuade a German crossing in favour of easier options, and stretching downriver to include Siemień, Stara Łomża, Łomża, Piątnica, Jednaczewo, Szablak, Nowogród and Rybaki-Czartoria. During May, construction

A Swedish design that Poland later produced under licence, the 37mm wz.36 Bofors anti-tank gun could pierce 20mm of rolled homogeneous armour at 1,000m at an angle of 30 degrees. The weapon also served as the main armament of the Polish 7TP light tank. (NAC)

of field fortifications was conducted between Pniewo and Szablak, including rifle trenches and wooden machine-gun bunkers around Rybaki-Czartoria. In early June the division's infantry and engineer officers received specialized training towards modernizing the reinforced-concrete bunkers in the Nowogród and Szablak areas, and light bomb-shelters at Łomża, Jednaczewo and Szablak.

In the weeks leading up to open warfare, Rydz-Śmigły and the Polish General Staff had grown concerned about Poland's northern border, as intelligence had been reporting on a build-up of German forces in that area. Having respectively attacked out of Pomerania and East Prussia to reach the River Vistula and cut the 'Polish Corridor' within the campaign's first four days, Guderian's XIX. Armeekorps and Generalleutnant Nikolaus von Falkenhorst's XXI. Armeekorps relocated to south-eastern area of East Prussia. With 3. Armee having made steady progress in the Mława area during its direct push on Warsaw, Falkenhorst's repositioned formations were slated to strike in the Łomża–Nowogród area and thrust east of the Polish capital. Should it pierce Polish positions along the River Narew, XXI. Armeekorps would help unhinge the Poles' northern defensive line and provide inner-flank protection for Guderian's XIX. Armeekorps as it moved into the comparatively lightly defended area of central Poland.

Owing to the spectre of Britain and France launching an offensive against western Germany, Hitler pressed for a swift conclusion to the Polish Campaign in order to begin shifting forces to meet the potential Anglo-French threat as soon as possible. Much to Bock's and Guderian's dissatisfaction, Hitler forbade any deep penetrations into eastern Poland lest these forces be quickly required in the West. As such, both German formations were further incentivized to overcome resistance from 18 DP quickly and coordinate with German forces from the west and south to trap and defeat the majority of the Polish defenders. Still part of XXI. Armeekorps, Generalleutnant Kuno-Hans von Both's 21. Infanterie-Division was soon in a position from which to advance on the River Narew and effect a crossing between Nowogród and Łomża.

With forces from 3. Armee having fought through heavy resistance downriver at Różan, on 5 September Polish defences along the Narew appeared ready to buckle before the campaign really began. Poor communications and an incomplete understanding of the threat posed by 3. Armee's forces prevented an effective Polish response, and during the night of 5/6 September German elements made their way over the Narew and into 18 DP's southern flank. Those units from 33 DP that could be redirected to stem the German penetration became mingled with those vacating the area, which caused confusion to the attackers' benefit.

Łomża and Nowogród, 7–10 September 1939

1 **Late morning, 7 September:** 21. Infanterie-Division's forward elements approach the River Narew before Piątnica.

2 **Midday, 7 September:** I/33 PP and a CKM company from I/42 PP take up positions within and atop the earthen forts and bunkers protecting Łomża and Piątnica.

3 **1230hrs, 7 September:** I/33 PP halts several German attempts to take the defences and secure a crossing of the River Narew.

4 **Morning, 8 September:** Polish forces repulse German assaults against Fort III.

5 **Morning, 9 September:** II. and III./IR 3 begin their assault against Nowogród.

6 **Afternoon, 9 September:** German forces capture Nowogród.

7 **Afternoon, 9 September:** All German attacks on the Piątnica forts fail.

8 **Afternoon, 10 September:** German assaults against Forts II and III are repelled.

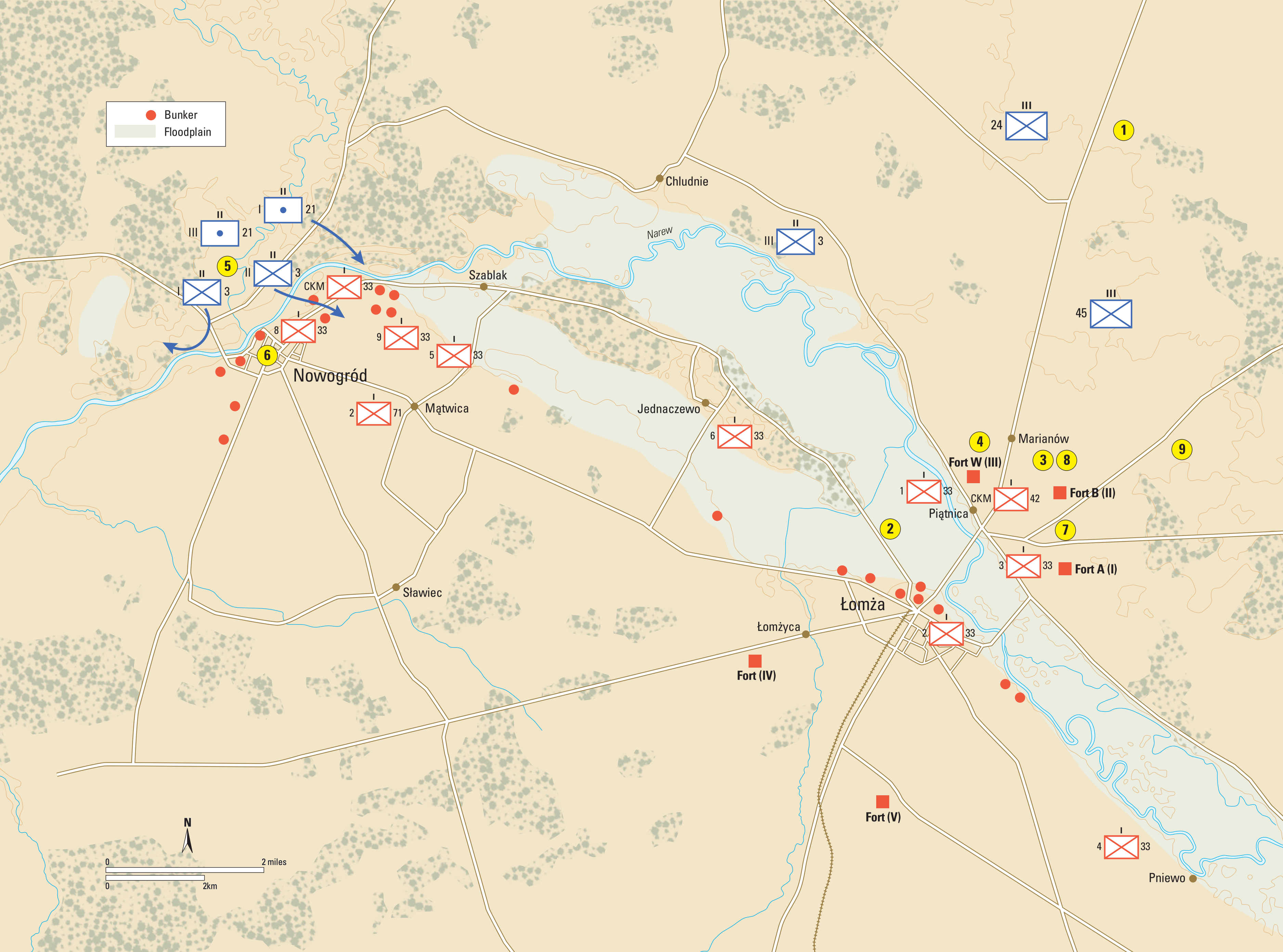
9 **1800hrs, 10 September:** 21. Infanterie-Division withdraws from the Piątnica area.

Battlefield environment

Once XIX. and XII. Armeekorps had completed their respective missions to cut the 'Polish Corridor', they were relocated to 3. Armee's eastern flank. On 7 September, just one week after the start of hostilities, XIX. Armeekorps crossed the East Prussian–Polish border and moved towards the River Narew as a prerequisite to a deep advance into Central Poland, while to its immediate right (west), XXI. Armeekorps struck for Łomża and Nowogród to secure river crossings. Spread along a lengthy stretch of the waterway, SGO Narew attempted to counter any such efforts.

The unusually hot Polish summer extended into the second week of September 1939. High temperatures hovered at around 25°C and lows dropped to 14°C. The River Narew was roughly 70m wide between Łomża and Nowogród. Owing to a lack of recent rainfall the Narew's maximum depth was 2.6m, although it was fordable in many places across what was a wide, largely dried-out floodplain bordered by steep cliffs.

Surrendered Polish soldiers are taken into captivity. Although the lead German guard has a holster he carries no weapon. (NARA)


Bunker
Floodplain
Chludnie
Narew
Szablak
Nowogród
Mątwica
Jednaczewo
Sławiec
Marianów
Fort W (III)
Fort B (II)
Fort A (I)
Piątnica
CKM
CKM
Łomża
Łomżyca
Fort (IV)
Fort (V)
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INTO COMBAT

Having spent a brief time in its assembly positions, 21. Infanterie-Division crossed into Polish territory on 7 September. After brushing aside weak resistance from Polish border guards the division's vanguard advanced along the route to Nowogród. Unlike the warm civilian response from ethnic Germans during 21. Infanterie-Division's recent operations in the historic German territory around Grudziądz and the River Vistula, the enthusiasm exhibited by the locals was now perhaps more for show. As 21. Infanterie-Division approached Kolno, 18 DP's reconnaissance company reported the movement. Just north of the town the Polish company's bicycle platoon unwisely attempted to harry the much more numerous German forces but were roughly scattered in the attempt.

Throughout the morning of 7 September, reconnaissance elements from 21. Infanterie-Division pushed ahead through the villages of Borkowo and Katy. Owing to the division's rather slow progress, however, during the afternoon a platoon from the neighbouring Aufklärungs-Abteilung 8 (10. Panzer-Division) moved into the Nowogród area to investigate Polish dispositions. With the town being only around 30km from the border, III/33 PP's commander, Major Józef Sikora, reported German motorized traffic heading towards his sector along the Narew. On reaching Morgowniki the column of German vehicles continued east to Zbójna where the Poles had recently blown up the village's bridge, preventing the Germans from making further progress in that direction and making contact with Army Modlin.

Just north of Piątnica, additional reconnaissance forces from 10. Panzer-Division moved into the village of Marianów at around midday, where they assessed the Polish fortifications now before them. Soon after, an inquisitive German tank advanced towards Fort III at a distance of 500m. As dismounted German infantry pushed forward in support, heavy Polish machine-gun fire from Forts II and III caused numerous German casualties that forced the probing foot-soldiers to abandon their effort. Advancing cautiously down the hill leading to Piątnica, the tank used roadside trees for additional protection. The crew of a 37mm wz.36 anti-tank gun that had been waiting patiently

Celebrating his ten years as commander of 18 DP a few weeks after this photograph was taken, Generał of Brigade Czesław Młot-Fijałkowski was promoted to lead Independent Operational Group Narew. (NAC)

German infantrymen lug newly cut tree trunks (as evidenced by the surrounding stumps) for use in constructing a simple bridge. Being near a combat zone, all of the men naturally continue to carry their weapons. The soldier between the two groups appears to carry two rifles. (NAC)

between Forts II and III fired a round that knocked out the vehicle, and according to Polish sources killed the crew. Soon after, a second tank tried a different method, racing directly down the road past the remains of the first vehicle. As the second tank approached to within 75m of the Polish defences the same wz.36 anti-tank gun fired on the vehicle and knocked it out as well; the stricken vehicle subsequently burst into flames. Seeing the futility of further such probes, the reconnaissance forces vacated the area and awaited the arrival of combat elements from 21. Infanterie-Division.

At the critical Piątnica crossing, about 17km upriver, I/33 PP's commander, Major Stanisław Wyderko, had placed his 1 and 3/33 PP in the trio of reinforced-concrete and earthen forts set amid the hilly terrain just beyond the village. With these connected defences arcing back to anchor against the River Narew there was no alternative to attack the complex other than frontally. Built during 1887–89 and 1901–19, the three fortifications sat astride the main roads leading to the metal bridge and the town of Łomża. Each had 'neck' (behind the fort) barracks, pens, interior dykes, a dry moat and anti-escarpment galleries. Walls and ceilings were between 1.5m and 2m thick, with 'potens' (underground walkways) provided to facilitate communication and safe movement. An external, sloping rampart and ditch would force any German advance to attack uphill and fully exposed. Each fort was designed for all-round defence and had its own kitchens, bakeries, water intake, furnace heating and a diesel-powered generator to help endure a lengthy siege. To provide supplementary defensive positions 15 wooden field shelters had been recently constructed, 2km of rifle trenches were dug that typically included an earthen shooting bench to assist rifle fire, and 16 tonnes of barbed wire, ten anti-tank obstacles and 100 anti-tank mines had been deployed. Portable *chevaux de frise* strung with barbed wire were also distributed as roadblocks or at other areas through which movement of friendly forces was occasionally needed. A dozen reinforced-concrete bunkers were also built along the forward edge of the three forts, one for each of the 7.92mm wz.30 HMGs of I/42 PP's CKM company. To provide an area of clear visibility for the defenders and deny cover to the Germans,

These soldiers from a Polish HMG platoon on review carry wz.29 carbines and wear wz.37 steel helmets and gaiters. The two-wheeled *biedka* wz.33 on the right mounts a wz.30 machine gun. The tubular structure on the left-hand *biedka* houses a rangefinder. (NAC)

trees had been cut down and removed and structures burned to provide an unobstructed esplanade out to 1,500m; civilians in the area were evacuated.

To provide a reserve Lieutenant-Colonel Lucjan Stanek, 33 PP commander, placed 2/33 PP just south of the Narew where it was to cover a 5km stretch from Łomża to Zawady, an area where the terrain suddenly rose upwards of 50m above the Narew's floodplain. At nearby Stara Łomża just one concrete bunker had been constructed along with eight wooden field shelters, as part of a defensive zone that included 1,500m of rifle ditches protected by barbed wire. At Łomża a dozen 100mm howitzers from III/18 PAL, with ageing fire-control equipment, were available for support. Along the town's western edge there were two earthen forts (IV and V) built at the end of the 19th century, but based on their location and composition they would be of minimal value against an enemy with modern ground and air assets. Although nine concrete machine-gun bunkers had been erected to protect Łomża proper the weapons used to equip them had all been relocated across the Narew to the Piątnica defences. Some 3km of rifle ditches were bolstered with 9 tonnes of barbed wire, 20 anti-tank obstacles and 100 anti-tank mines.

Situated between Łomża and Nowogród, Major Władysław Święcicki's II/33 PP occupied the village of Jednaczewo and its surrounding high ground within the floodplain, with its 4/33 PP placed further upriver at Pniewo. Representative of the soldiers of many units within 18 DP, the reservists of 5/33 PP had only been mobilized in late August and the platoon commanders were unfamiliar with their men. Unit cohesion was correspondingly poor, as was training: many even lacked experience with their wz.98 rifles and Browning wz.28 LMGs. In the short time 5/33 PP had been in its 2km-wide sector its personnel had established defences around Jednaczewo, with one platoon occupying a second position atop the cliffs just to the south. To observe the Katy–Nowogród road, two teams from 5/33 PP's 2nd Platoon were positioned north of the Narew, with a pair of fishing boats on hand on the Narew's northern bank should it become necessary to extract the teams quickly. With a German invasion likely to occur at any moment 2/33 PP was ordered to man what was a rather lengthy frontage given their numbers: it extended from the causeway north-west of Łomża, through the town and south-east along the Narew. While the fortifications at Nowogród and Łomża, and much of the surrounding terrain, favoured the defenders, the thinly stretched Poles nevertheless faced a daunting challenge to prevent a German breakthrough at the major crossing sites, but also along much of the Narew.

On 8 September, Infanterie-Regiment 24, with tanks from Panzer-Regiment 8 (10. Panzer-Division) and artillery in support, assaulted Fort III without success. Three more attempts were made before midday with similar results. Polish machine guns and 37mm Bofors anti-tank guns rebuffed these ill-conceived efforts and six German tanks were reportedly knocked out. Seeing the need to adjust his approach, Falkenhorst left a portion of his command to monitor the irritating obstruction and pulled the majority of 21. Infanterie-Division's forces back to regroup. Around midday 5/33 PP took up positions just north of Mątwica in anticipation of a German attack from Szablak, just west of a patch of coniferous woods on the Jednaczewo high ground. As the Polish defenders established four rifle teams along the cliffs and set up their wz.28 LMGs in a pair of nearby concrete bunkers, telephone contact was made with the adjacent 9/33 PP should support be necessary.

During the night of 8/9 September, after smoke and inadequate supporting artillery fire, a German force from Infanterie-Regiment 45 crossed the Narew in rubberized rafts provided by 3./PiBtl 21. Having fought through some initial resistance, the Germans exploited the steep terrain of the far bank to avoid further fighting until after nightfall. In response to the threat Stanek moved two platoons from 5/33 PP to the site of the penetration, while 6/33 PP backed up the effort, as the Poles launched a night attack that captured several dozen prisoners and forced the remaining Germans back across the Narew.

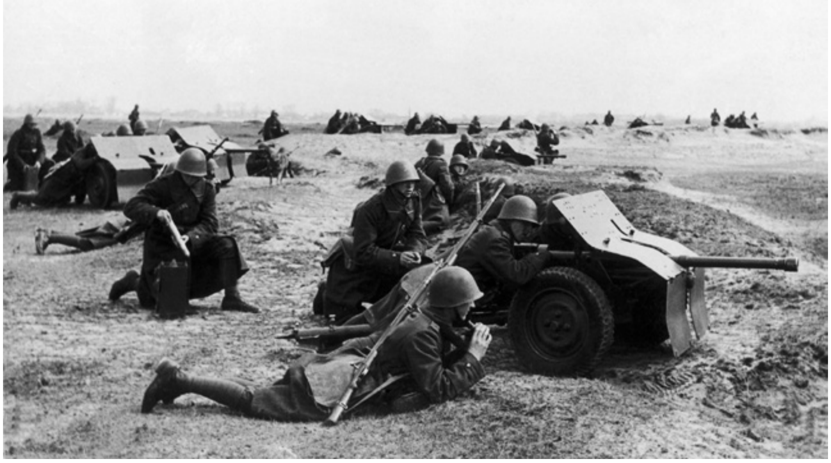
With German forces having recently crossed the Narew downriver at Różan and now advancing into 18 DP's rear areas, during the morning of 9 September Rydz-Śmigły ordered SGO Narew to abandon its positions

A German mortar crew near Warsaw using an 8cm Granatwerfer 34, an infantry mortar that could effectively lob a shell out to 1,200km. The weapon disassembled into three sections (barrel, bipod and baseplate) so that the men could carry the components weighing nearly 62kg in total. (The New York Public Library Digital Collections) along the waterway and fall back to the south. Already undermanned, the Polish defences along the Narew would be unable to resist an additional German attack axis, especially across the largely undefended area behind them. Frustrated by their lack of success against just two reinforced Polish infantry companies manning the three forts, the Germans allocated air and artillery support to soften up the area prior to another ground assault. In preparation for the German attack a Luftwaffe reconnaissance aircraft flew along the forts at very low altitude before Junkers Ju 87 Stuka dive-bombers hit the targeted area. German artillery also pummelled the concrete and earthen forts throughout the day for little tangible result, save for killing 17 artillery horses behind Fort II and smashing Fort III's supply kitchen. The Polish machine-gunners in their concrete bunkers extracted a particularly heavy toll as having been positioned near ground level their flat-trajectory weapons could better sweep the onrushing enemy troops and leverage the considerable effects of crossfire. The Polish 100mm howitzers remained active from across the Narew, meaning that their firepower remained available to help break up enemy assaults.

At 1100hrs Młot-Fijałkowski decided that instead of withdrawing SGO Narew, the formation would fight to provide some space and time to facilitate the unfolding withdrawal and maintain morale. Before midday three German assaults on Fort II had failed to overcome any part of the defences, and an attack against Fort I in the afternoon was similarly repelled. Even with the assistance of tanks and a decisive advantage in manpower and resources the attackers were unable to break the Polish defence directly – at least in a manner that avoided unnecessarily heavy German losses in men and equipment.

Along with other defensive improvements along 33 PP's sector, work had begun at Nowogród in late March 1939 under the direction of Captain Leon Grzego-Stokowski, commander of I/33 PP's 3. CKM Company. The Poles pondered what types of fortifications to create, where best to place them to maximize their respective fields of fire and how they would weather impacting projectiles. Additional factors were also considered, such as determining optimal crew sizes, drainage, communications, protection in the event that poisonous gas would be used and how much ammunition, food and water should be stored. Just east of Nowogród one bunker overlooking Szablak included what appeared to be an ageing US-manufactured 3in M1902 field cannon that had not been rechambered to accept the more common 75mm round. Both sides of the Narew in the Nowogród area featured steep, 15–30m-high cliffs that rose directly from the river's floodplain, meaning that they provided an excellent view of the intervening area. Nowogród had 17 concrete bunkers, predominantly armed with older wz.08 Maxim machine guns (including two observation shelters and one completed air-raid shelter) and 11 wooden field shelters, in addition to 2,300m of rifle trenches, 16 tonnes of barbed wire, ten anti-tank obstacles and 100 anti-tank mines.

Sikora's III/33 PP (minus 7/33 PP) had been assigned the area from Mątwica downriver to around Osetno, with the MG Company and light artillery from 18 PAL in support. To allow for a controlled flooding of the Narew upriver, construction had started on a wood-and-rock dam near



Soldiers of a Polish anti-tank platoon are pictured with their 37mm Bofors wz.36 guns. During firing, the crewman to the rear would prepare the fuzes and hand them to a second crewman nearer the weapon. The loader added his weight to the gun to help keep it stationary, while to the breech's left the gunner performed his aiming and firing duties. The commander used binoculars to scan for targets and observed the battlefield. Oddly, a dog is visible near the third gun. (Keystone-France/Gamma-Keystone via Getty Images)

Nowogród's 100m-long wooden bridge and adjacent narrow-gauge railway crossing. This was only 50 per cent complete in early September 1939, however, as the ongoing hot summer had prevented a sufficient flow from the Narew to make the flooding tactic practical if it had been employed.

At 0545hrs on 9 September a 15-minute artillery barrage attempted to subdue the Polish defenders. Although the German assault was to commence at 0600hrs, delays in getting organized in the sandy, coniferous woods meant 1./IR 3 was only ready at around 0700hrs and 3./IR 3 three hours after that. As assault engineers from 3./PiBtl 21 crossed the Narew in rubberized rafts a machine-gun platoon and a pair of mortars provided suppressive fire. As the German combat engineers reached the opposite bank, Polish machine-gun fire from three nearby bunkers accounted for the first casualties among them. In response the Germans used a 3.7cm anti-tank gun, 7.5cm light infantry guns and machine-gun fire to suppress the Polish activity. Although the German projectiles were ineffectual against reinforced concrete, they could damage inserts and domes while churning up the surrounding terrain. II./IR 3 had a similar experience as assault companies from Infanterie-Regiment 45 moved up to the Narew to mount a crossing under supporting artillery fire. At 1130hrs German-laid smoke masked the attackers as they crossed over and established a bridgehead at the base of the southern cliffs. Two hours later, Heinkel He 111 bombers conducted a level bombing of the Nowogród bunkers that caused heavy losses and forced the Polish defenders to pull back from the cliffs and take up positions further to the south.

With German forces already across the Narew at Różan and threatening Wizna and Ostrołęka, continued Polish resistance risked the defending forces along the river becoming encircled and unable to contest a German southern advance. While the right bank of the Narew was sandy in the Nowogród sector there were several forested areas and thick scrub that helped mask the build-up of German forces on their side of the floodplain. With the area north of the waterway of at least equal height, Polish ground forces were largely blind to any German build-up from that direction. The numerous country roads on the German side facilitated the distribution of men and *matériel*, while the main route back to the East Prussian border and the general absence

Paul Gurran

Paul Gurran was born in Zauche in Brandenburg on 11 January 1893. At age 15 he started to attend the two-year NCO Preparatory School in Annaburg, which in addition to military training provided a curriculum that included mathematics, writing, drawing, history and geography. After graduating, Gurran attended the NCO school at Treptow for another two years of instruction focused more on military subjects. He was then allocated to Grenadier-Regiment 12 for his obligatory military service. Throughout World War I Gurran served as a *Vizefeldwebel* (Sergeant Major 2nd Class) with the regiment throughout the conflict, and participated in major battles on the Western and Eastern fronts.

Following the conflict Gurran was accepted into the Reichswehr and rose to the rank of *Major* in 1935. Two years later Gurran was made commander of III./IR 45 (21. Infanterie-Division), which during the Polish Campaign participated in the attack on Grudziądz before relocating east to attack Łomża–Piątnica and Nowogród in search of a crossing over the River Narew. As an *Oberstleutnant* he led Infanterie-Regiment 506 in the invasion of the Soviet Union, and in September 1941 was awarded the Knight's Cross. During late 1942 and early 1943 he oversaw Heeresgruppe Nord's junior officers' school at Reval. In October 1943 Gurran was appointed commander of 23. Infanterie-Division and in early 1944 was wounded during the German withdrawal from Leningrad. Gurran subsequently died in a field hospital near Białystok on 22 April 1944.

of Polish air power meant that German supplies had little trouble getting to where they were needed and stockpiled.

For all the benefits the Germans seemed to possess on the Narew's north bank, the similar cliffs and geographic features that made up the Polish defensive line were bolstered further by the domed machine-gun bunkers that had been established at varying heights and angles so that each bunker could provide overlapping crossfire with neighbouring bunkers. While some of these Polish casemates faced the most likely direction of an attack, others had been set at an angle that presented their solid concrete sides or earthen covering towards the most likely threat axis. This helped the structures to weather a sustained assault and forced an attacking force to approach them indirectly where it would be subjected to a neighbouring bunker's fire.

As 21. Infanterie-Division lacked the heavy siege mortars capable of reducing such structures the division's commanders opted for high-velocity solutions. During the morning of 9 September, two 8.8cm anti-aircraft guns were set up along the southern edge of the woods bordering the Narew's northern bank, as were nine light howitzers and several 3.7cm anti-tank guns. With the Germans having brought forward sufficient forces to secure and exploit a crossing at Nowogród, elements of Infanterie-Regiment 24 were placed on the southern bank of the River Pisa (Pissek) to reinforce a direct assault or move down the Narew should repositioning be necessary. German forces had already taken an abutment just south of the Narew, while their main effort had gathered to the south-east of the town along a 1,500m frontage. North-east of Nowogród, Oberstleutnant Karl Spalcke's I./IR 3 awaited the signal to move out of its wooded assembly positions and strike across the Narew for what was anticipated to be a final push to clear the area; I. and III./AR 21 provided support, along with a pair of light infantry guns and a platoon of anti-tank guns.

Prior to attacking, the Germans laid down heavy fire into and on top of the southern cliffs, thereby pushing the exposed Polish infantry back from

Józef Świrniak

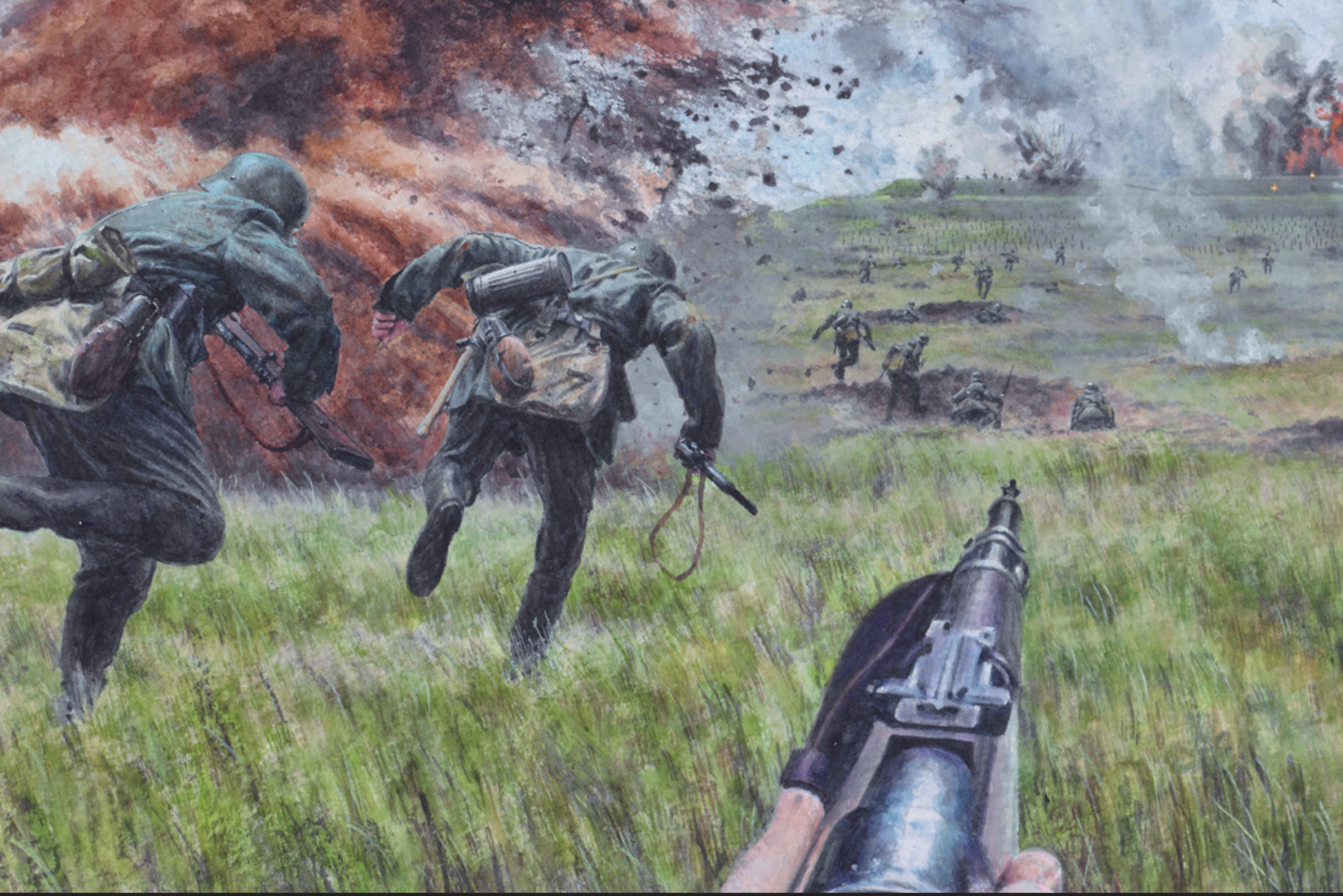
Born near Lemburg (Lwów in 1939; now Lviv, Ukraine), on 13 March 1900, Józef Świrniak graduated from the gymnasium for men in Drohobycz (now Drohobych, Ukraine). Much as German World War I veterans joined Freikorps groups to ensure their country's security, in Poland's war with Ukraine (1918–19) Świrniak joined an underground Polish Auxiliary Corps, which was involved in forcibly expelling most Ukrainian elements from Lwów. He subsequently joined 46 PP (5 PP after 1921), which fought the Bolsheviks in the Polish–Soviet War (1919–20), and later provided instruction for Poland's Border Protection Corps in resisting Soviet guerrillas.

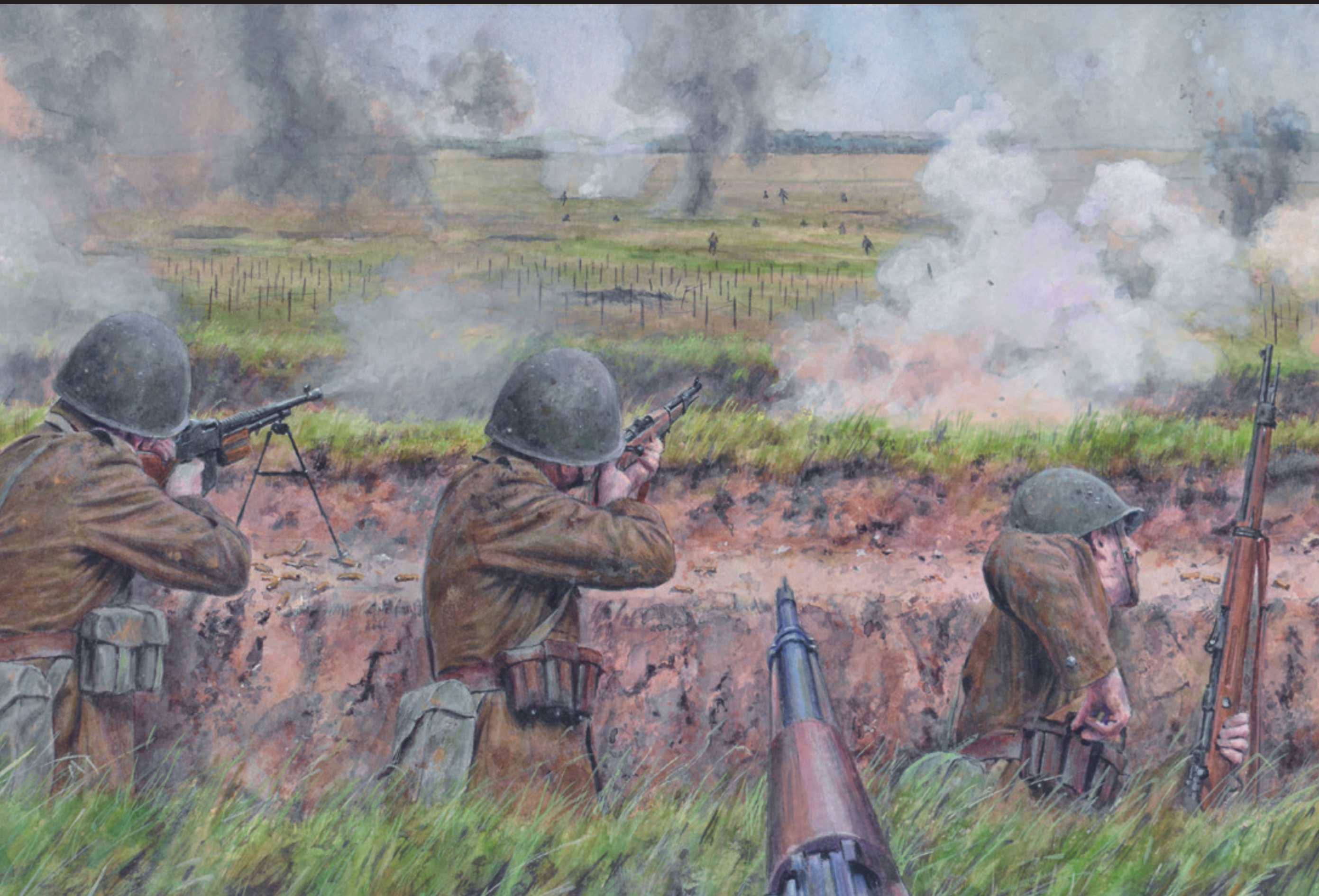
After completing instruction at the School of Infantry Training (Bydgoszcz), Świrniak was assigned to 82 (Siberian) PP and later 81 (Grodno) PP, where he was promoted to *kapitan* (captain) in 1936. In 1937 Świrniak was transferred to 33 PP as commander of 4/33 PP, tasked with defending the area between Łomża and upriver to Pniewo. Content to focus on Nowogród and Łomża, 21. Infanterie-Division largely left 4/33 PP unmolested. During the night of 10/11 September Świrniak led his command south as part of 18 DP's ordered withdrawal, where it and 7/33 PP provided protection for a battered 33 PP. After more than a week of 33 PP being fought down to a state of combat ineffectiveness, Świrniak, in civilian clothes, was captured by the Red Army, and died in Soviet custody on 5 May 1940.

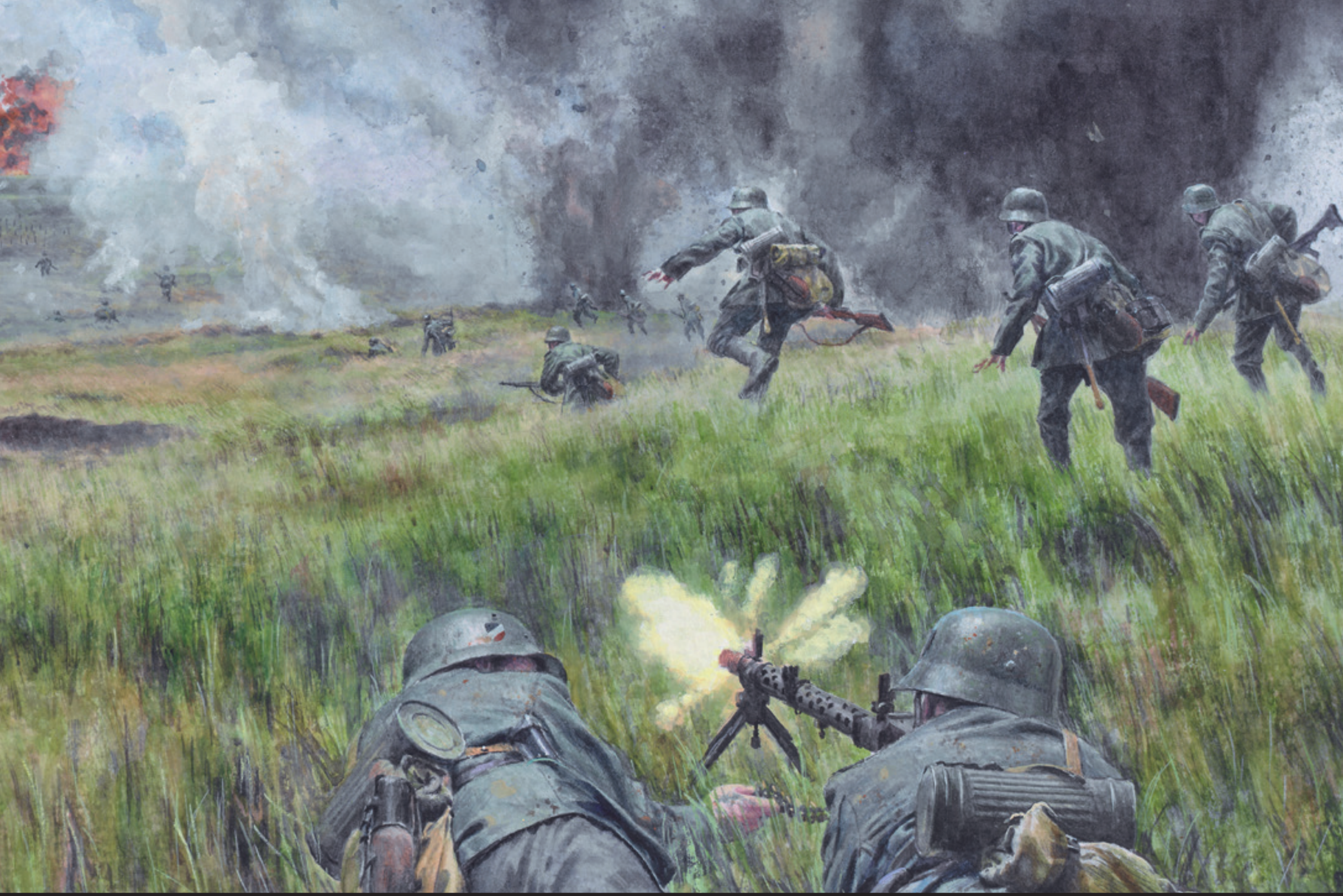
the precipice. With the majority of Polish riflemen removed from the initial fight, German artillery and anti-tank weapons engaged the concrete-and-steel domed bunkers now largely in isolation, save for the overlapping fire of adjacent casemates. While 3.7cm anti-tank guns could generally place several rounds into roughly the same space at what were ranges of only a few hundred metres, their projectiles were best used against the thinly armoured machine-gun domes atop many of the bunkers or the steel inserts housing their machine guns. In tests, 8.8cm anti-aircraft guns had shown promise against reinforced concrete; their application at Nowogród proved successful in that by repeatedly hitting a selected area a bunker's exterior could be cracked or otherwise have its structural integrity compromised. Even without achieving a penetration, the impact of large, high-velocity rounds could injure a crew with a shower of internal concrete fragments that was similar to spalling in heavier armoured vehicles. To provide communications among clusters of bunkers a small, concrete hub structure was typically built to the rear where an operator controlled a switchboard connected to underground cables. As an alternative communication method, two fist-sized lateral tubes through a bunker's wall were used to direct light signals along a narrow arc intended for an adjacent bunker crew; the recipients of the signal could then continue the chain if needed.

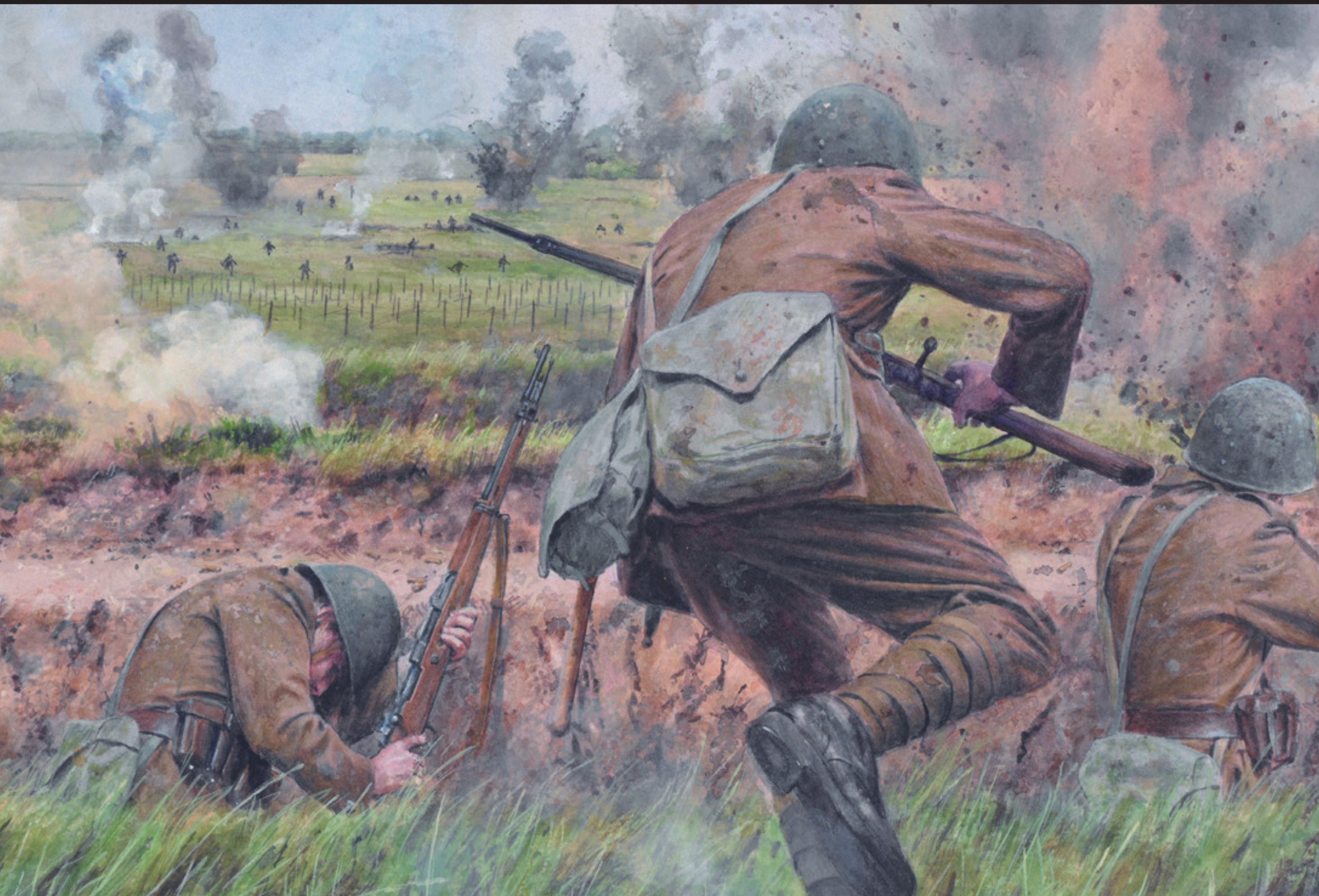
During the ensuing fighting on 9 September, Infanterie-Regiment 3 steadily pushed stubborn elements of III/33 PP out of a largely devastated Nowogród. Accompanying German combat engineers used flamethrowers to help overcome Polish resistance. Although the defenders mounted a counter-attack later in the day, they only regained a portion of the town in what increasingly felt like a lost battle for the Poles.

Between 0700hrs and 0800hrs on 10 September, I/42 PP arrived south of Nowogród. During the march, the battalion was detected from the air and the Germans commenced artillery fire against the unit. The Poles advanced in dispersed groups so as to minimize casualties. As they reached their objective, however, German fire became so intense that it forced many Polish units to turn back. Sikora arrived to stem much of the rearward movement. Later in

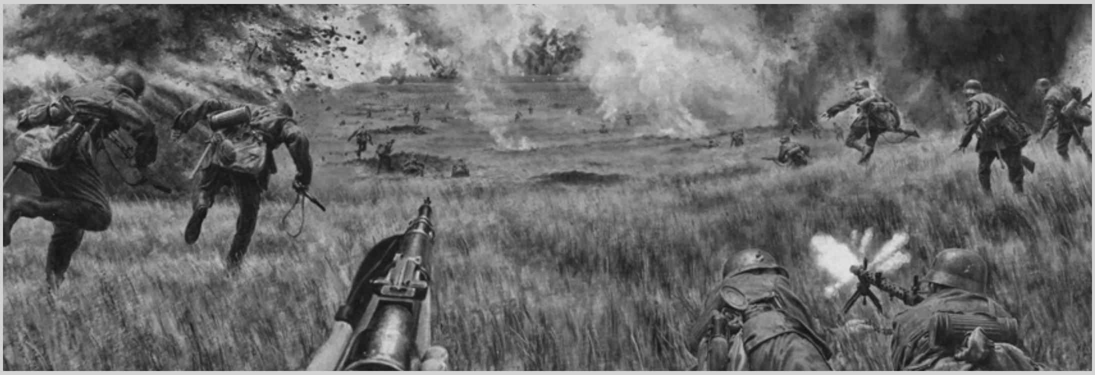




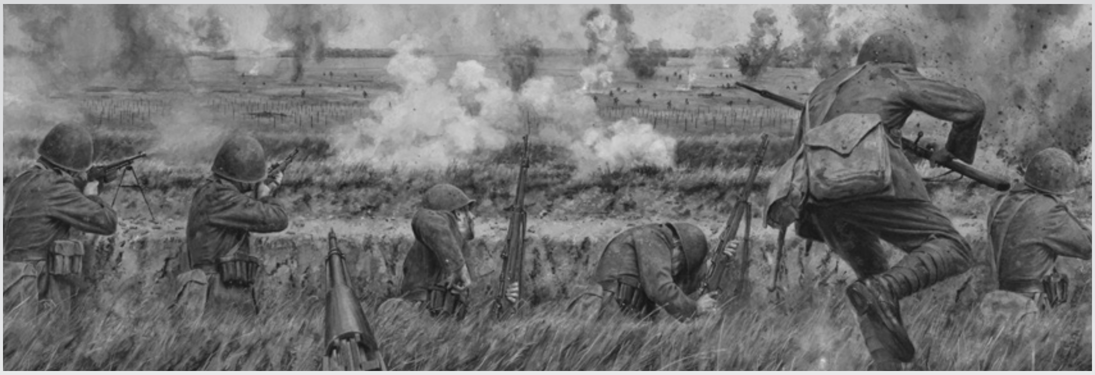




Assault on Fort II at Piątnica



German view: As part of 3. Armee's offensive north-east of Warsaw starting on 7 September 1939, 21. Infanterie-Division moved on Łomża–Piątnica and Nowogród to effect crossings of the River Narew. After two days during which Infanterie-Regiment 45 conducted several unsuccessful assaults on the defensive fortifications, just after midday on 9 September Junkers Ju 87 Stuka dive-bombers, along with artillery, attempted to suppress the target prior to yet another attempt. While German combat engineers attempt to clear a path through a deep strip of barbed wire protecting Fort II's approach, infantrymen move up in support. In the absence of heavy siege guns, German artillery fire generally served only to churn up the Polish-held terrain. German machine-gun teams provide a volume of suppressing fire.



Polish view: Tasked with defending a lengthy frontage along the River Narew, 18 DP needed to allocate its overstretched forces prudently. Defending the critical crossing at Łomża–Piątnica, only 1 and 3/33 PP were allocated to man the trio of concrete and earthen forts on the north-eastern bank. To provide badly needed support, the CKM company from I/42 PP was brought in to add its machine-gun personnel to the newly built concrete bunkers around the complex's outer edge. Although somewhat exposed to German fire, the Polish infantrymen fighting from simple trenches atop the fortress were protected by a number of force multipliers, including a dry moat, overlapping fields of fire, a sloping glacis devoid of cover for the enemy and a thick belt of barbed wire. From nearby Łomża 12 100mm howitzers from III/18 PAL added their fire to break up parts of the German attack.

These captured Polish soldiers lack any unit insignia on their uniforms. The men wear squared-off *rogatywka* peaked caps as well as the stiffer garrison caps. The violet branch-of-service piping indicates a chaplain. (Hugo Jaeger/Timepix/The LIFE Picture Collection via Getty Images)

the day Polish forces launched a counter-attack, but the German push into and through Nowogród was simply too strong.

At Nowogród the Polish defenders fought with a determination that occasionally bordered on the fanatical, as evidenced by at least one bunker having received a devastating hit only to have those who were still alive rush forth in a bayonet charge before German infantry cut them down. Other Polish crews were killed by small-arms fire or flamethrowers if they refused to surrender. With the Germans having compromised the Polish defence at Nowogród, Infanterie-Regiment 3 soon secured the nearly destroyed town. In recognition of the determined resistance Polish military forces and civilians had demonstrated defending Nowogród, in 1978 the town was awarded the Order of the Grunwald Cross, 3rd Class.

In nearby Piątnica those Poles fighting from Forts II and III repelled further fruitless German assaults; after three days of no progress, by 1800hrs on 10 September 21. Infanterie-Division units were moving back beyond the effective range of the Polish guns and redirecting their efforts to nearby compromised sectors. With no reserves to use against threatened sectors along the Narew and 33 PP worn down and exhausted, at around 2030hrs Colonel Stefan Kossecki, 18 DP's commander, ordered his command to retreat several kilometres south of the river. With this movement having commenced, at around midnight Lieutenant Aleksander Siejak's 3/33 PP remained in place as a covering force before following suit. Unbeaten in direct combat, the soldiers of I/33 PP were understandably in a state of disbelief at their seemingly unwarranted pull-out. Reluctantly complying, many of Fort I's defenders made use of the wooden footbridge that had recently been built adjacent to the damaged iron one. Once all Polish personnel had crossed to the Łomża side of the Narew, the wooden footbridge was blown up. Over the next two days the survivors of 33 PP would engage German armour and artillery during their movement to the south, and would be eliminated as a fighting force in the process.

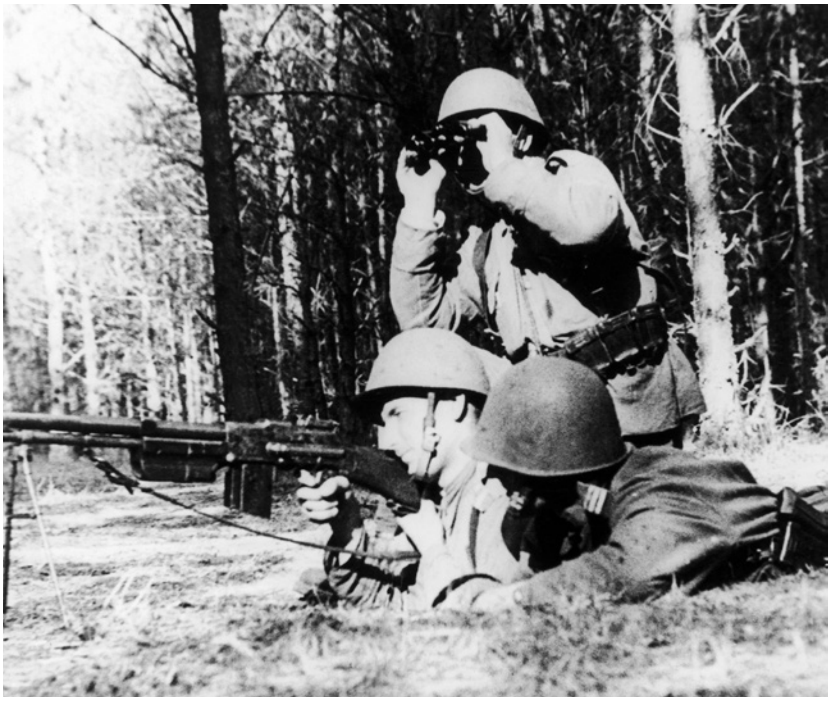
The Bzura Pocket

9–10 September 1939

BACKGROUND TO BATTLE

During more than a week of heavy fighting, German forces increasingly pushed their Polish adversaries back against the River Vistula and onto Warsaw. With Army Pomorze having been roughly handled in the 'Polish Corridor' and Army Poznań forced to abandon its overextended positions in the West, chaos and disorganization were an increasing problem for the Poles as they worked to regain their balance and stabilize the front line. Senior Polish commanders realized that further defence of the frontier risked heavy losses in men and resources, and on 6 September 1939 the commanders of both formations, Bortnowski (Army Pomorze) and General of Division Tadeusz Kutrzeba (Army Poznań), were ordered to withdraw eastwards to establish positions within the Narew–Vistula line. With 4. Armee blocking much of the territory along the Vistula's northern bank between Toruń (Thorn) and Modlin, what was now essentially a single Polish force composed of Army Pomorze and Army Poznań needed to ensure its remaining routes to Warsaw remained open. These routes included Koło–Kutno–Łowicz–Sochaczew or a more circuitous path via Koło–Kutno–Żychlin–Sanniki–Sochaczew rounding Łowicz north of it; Kutrzeba opted to take both routes to mitigate traffic congestion.

Having anticipated that German forces would fixate on Warsaw and commensurately overextend their flanks, Kutrzeba formulated a counter-attack intended to undercut 8. Armee's efforts, alleviate the pressure on Army Łódź and buy time to strengthen the defences around the Polish capital. Soon after Rydz-Śmigły having denied permission for any such action, with the front lines closing in on Warsaw on 7 September he and most of the Polish government relocated to Brześć. With telephone communications



Polish soldiers train with a wz.28 LMG, with a 20-round magazine; the weapon fired a 7.92mm round at 853m/sec. A variant of the wz.28 was used in the PZL.37 medium bomber. Polish 7.92mm rounds were provided in several varieties, including ball, heavy ball, armour-piercing and incendiary. (Keystone-France/Gamma-Keystone via Getty Images)

from the new location overburdened, senior civilian and military leadership in the centre of the country were unable to assess the battlefield situation effectively from 300km away and provide direction to front-line forces at a time when overall coordination of Poland's fighting forces was most needed. In an effort to be proactive before the three German armies arrayed against him isolated and constricted his battle zone to an untenable degree, Kutrzeba took it upon himself to initiate a counter-attack and strike for Dęblin, and across the supply lines of 8. and 10. Armeen.

Although the Germans had suffered more casualties than had been expected and experienced the occasional tactical setback, these were more than compensated for by the excellent rate of advance overall. Under Heeresgruppe Süd (Army Group South), 10. Armee had sent some of its formations north of the River Pilica, which combined with the River Bzura to the north-west to funnel the half-dozen or so Polish infantry divisions into an ever-shrinking battlespace as they passed the Łódź area. On 8 September armoured elements from 10. Armee reached the south-western edge of Warsaw, while along its left X. and XIII. Armeekorps (8. Armee) moved into the intervening territory between these two waterways, seeking to trap and defeat the survivors of the increasingly fragmented Army Łódź before they could escape over the Vistula. With Luftwaffe aircraft having begun their bombing campaign of Warsaw that same day and the Polish Army retreating from all fronts, a short campaign seemed to be in the offing. In the chaos of the previous few days, however, the Germans had lost contact with much of their perceived prey and assumed that they had already exfiltrated from the area. As a result, 8. and 10. Armee elements prepared to clean up resistance in the area prior to conducting a concentric offensive against Warsaw involving major portions of Heeresgruppen Nord and Süd.

Having recently pulled itself from the fighting north of Bydgoszcz, the Pomerze Cavalry Brigade conducted a reconnaissance on 8 September to ascertain the rapidly changing situation and Bortnowski was informed that much of Army Poznań was accumulating around Kutno. To coordinate the movement of the recently joined armies he travelled to the headquarters of Army Poznań, around which the formation spread out between Skulsk and Turek. With senior Polish leadership having gleaned that the German attack axis focused on Łęczyca and could cut off Polish forces withdrawing from around Bydgoszcz and Poznań (Posen), it was clear that action was required sooner rather than later to avert a catastrophe. As Rydz-Śmigły was out of immediate contact, Kutrzeba turned to the chief-of-staff, General of Brigade Wacław Strachiewicz, who assented but only with Rydz-Śmigły's approval. Wasting no time, Kutrzeba shifted his army closer to Łęczyca on the Bzura to establish a line of departure for his counter-attack, slated for 10 September. He also sent the plan by aircraft to inform Rydz-Śmigły, who had little choice now, given Poland's deteriorating battlefield fortunes, but to approve creating this Group Poznań–Toruń.

To coordinate their effort, during the afternoon Bortnowski arrived at Army Poznań headquarters where Kutrzeba outlined his plan. As Bortnowski felt his command was to be sacrificed to buy time for Army Pomorze he proposed that both armies be applied to the offensive, even though it would only delay the inevitable Polish retreat towards Warsaw. Having recently fought their way out of the 'Polish Corridor', Bortnowski's 15 DP and 27 DP would counter III. Armeekorps in the Włocławek (Leslau) area. His remaining 4 DP, 16 DP and 26 DP and volunteer ON (Obrona Narodowa; National Defence) battalions were to add their weight to the offensive once Kutrzeba achieved a breakthrough. Army Poznań's air group and main strike force (25 DP, 17 DP and 14 DP) were brought up as well. At this time Polish aerial reconnaissance reported that X. Armeekorps was advancing parallel to the Bzura's southern bank but had, so far, not crossed over to the northern bank. Following the meeting, Kutrzeba sent a report of its key points to the High Command.

As part of the pending counter-attack, General of Brigade Franciszek Wład's 14 DP, one of the original four infantry divisions to be mobilized on 23 March 1939, had been positioned in the Poznań area from where upwards of 90 per cent of the formation's reservists hailed. In one of the Polish Army's westernmost sectors 4. Armee and 8. Armee soon caved in Army Poznań's flanks, prompting its withdrawal from the frontier to avoid encirclement.

As part of this movement, 14 DP conducted an epic 200km march to near Kutno, just north of the Bzura. Owing to supply disruptions civilian bakeries along their route were used to bake bread, and livestock was occasionally butchered in order to supplement rations. Ordered to refuse becoming entangled in combat, the division's columns marched at night among throngs of foot-bound civilians and carts hauling their hastily gathered possessions, all the time trying to avoid the attention of a seemingly ever-present Luftwaffe. Such scenes occurred throughout Poland, meaning that as Polish forces pulled back towards the country's interior roads became increasingly congested. What optimism Polish soldiers had exuded only a week ago had by now

Many Poles hoped for rainy weather to turn their overwhelmingly rural, dirt roads into the morass depicted here. Instead the Germans were presented with generally good weather that facilitated their advance. The towed 7.5cm light infantry gun provided infantry support out to around 5km. (NAC)

eroded along with the hopes of rainy weather that would raise river levels and turn country roads into muddy quagmires that would help stall the German advance.

Having led Army Poznań's short-lived GO Koło that included 17 DP, 25 DP and assorted support units, on 6 September the formation was renamed GO Knoll-Kownacki to reflect its commander's name and the changing battlefield situation. With the decision to conduct a counter-attack south of the Bzura, on 8 September General of Brigade Edmund Knoll-Kownacki received 14 DP and the Greater Poland Cavalry Brigade; on the same day the Luftwaffe commenced what would be a sustained air offensive against Warsaw. Although the soldiers of 14 DP had grown weary of witnessing the plight of their civilian countrymen and had endured the long nights of marching into an unknown future, their mood and motivation improved considerably as they learned of their forthcoming part in a major operation against the Germans. For all their renewed optimism, as the men of GO Knoll-Kownacki approached their jump-off positions along a Strzegocin–Rybie–Bielany line their leadership continued to struggle with disorganized units, poor communications and rushed planning.

With 8. Armee focused on pursuing Army Łódź well to the east, 30. Infanterie-Division held a rather isolated position along General der Infanterie Johannes Blaskowitz's deep northern flank. Polish reconnaissance had determined that the German division was concentrated around two towns just south of the Bzura and so it seemed a choice target for what was for once a numerically superior Polish force. Knoll-Kownacki decided to use 25 DP in a direct assault on Łęczyca and 14 DP against Piątek, which 30. Infanterie-Division held in greater strength; 17 DP was to push into the intervening gap and advance into the German rear areas. As an initial objective, Bortnowski determined that a Włocławek–Brześć–Kujawski–Izbice line needed to be reached on 9 September. For the Poles, everything depended upon quickly striking what seemed to be an unaware opponent before he could bring up sufficient reserves.

The Bzura Pocket, 9–10 September 1939

1 **Afternoon, 9 September:** Polish forces, including 14 DP, move up to the River Bzura to conduct a counter-attack south-west of Warsaw.

2 **Early evening, 9 September:** Polish engineers repair the Młogoszyn–Górki Pęcławskie bridge.

3 **1800hrs, 9 September:** The Polish counter-attack begins.

4 **0000hrs, 10 September:** 1/57 PP engages 1./IR 6 at Goślub-Osada.

5 **Dawn, 10 September:** 57 PP attacks Piątek.

6 **c.0800hrs, 10 September:** II/57 PP takes Rogaszyn.

7 **1000hrs, 10 September:** II/57 PP captures Piekary, just north of Piątek.

8 **Late morning, 10 September:** III/57 PP strikes Goślub.

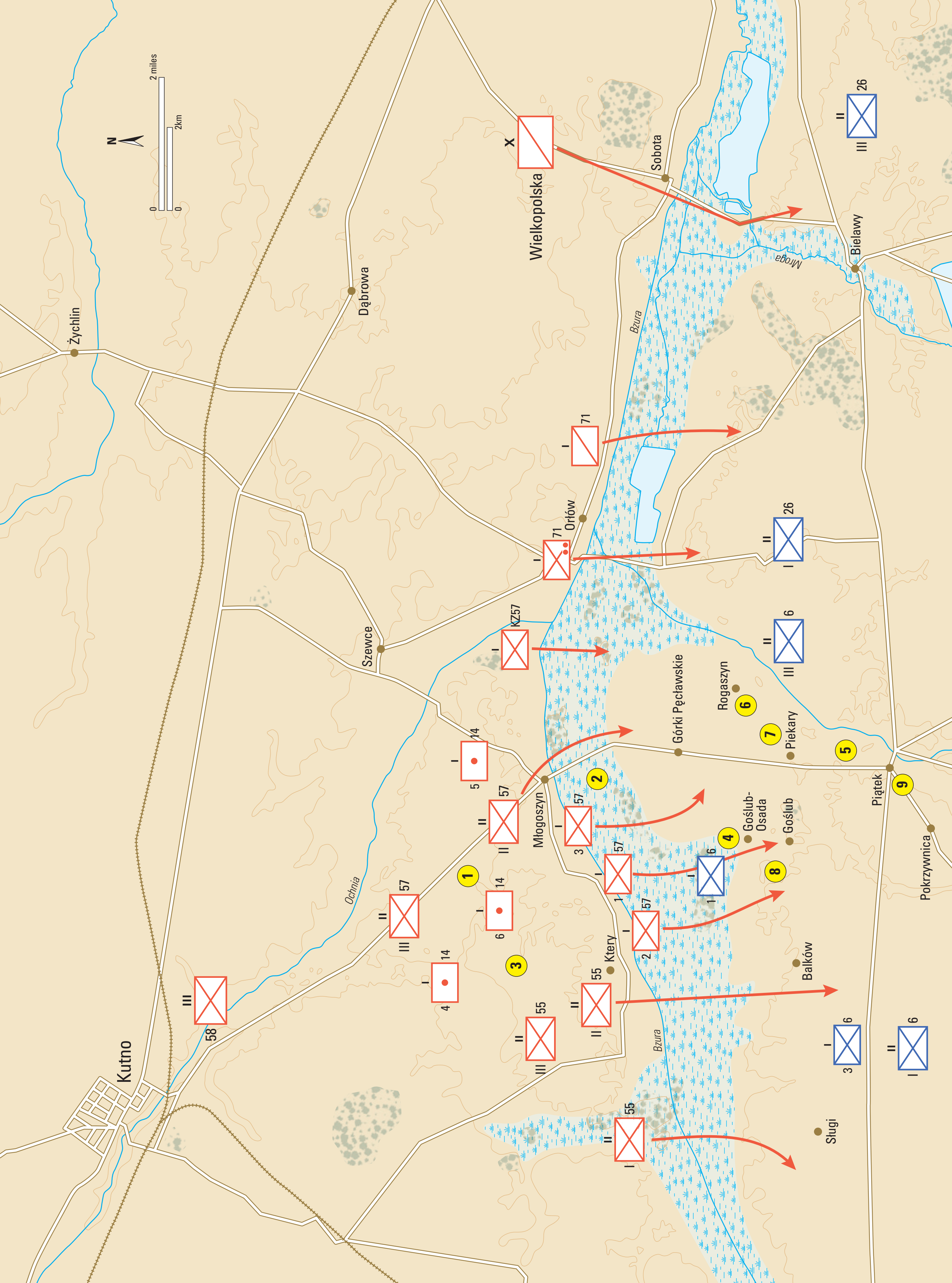
9 **1300hrs, 10 September:** I/57 PP captures Piątek.

Battlefield environment

Within the campaign's first week, German forces were converging on the Warsaw sector. As Poland's leaders continued to hold out hope for Britain and France to intervene militarily in western Germany to relieve the pressure 8. Armee and 10. Armee were exerting on Warsaw, the increasingly surrounded Army Pomorze and Army Poznań formulated a counter-attack directed at Łódź and the rear of the German spearheads.

On 9 and 10 September, temperatures were around 27°C during the day and 12–17°C at night. A waning crescent moon provided a sliver of light, with fog prevalent during the morning of 10 September.

A German infantry section passes a smoking building, a common sight on any battlefield. Their relaxed gait across open terrain indicates an absence of enemy personnel in the area. (Nik Cornish at www.stavka.org.uk)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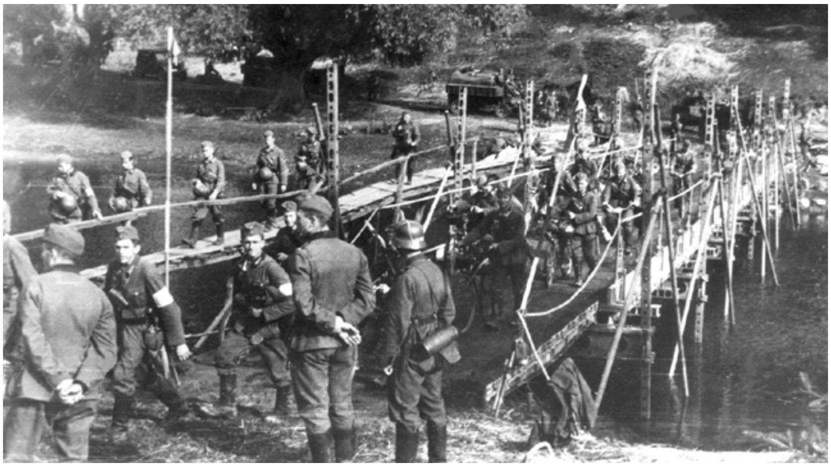
INTO COMBAT

In response to Kutrzeba's earlier request, on 9 September Rydz-Śmigły approved the counter-attack and to facilitate command and control placed Army Poznań's commander in charge for what was envisaged to be an ambitious offensive that cut behind 8. Armee's spearheads to reach Radom and Dęblin on the Vistula. No further communication from the Polish High Command at Brześć was forthcoming. To reinforce the German consensus an OKH teleprinter message reported that Army Poznań and Army Pomorze were moving eastwards with all the transport available and that 8. Armee essentially need not worry about the security of its rather extended flanks. German intelligence estimated that some ten Polish divisions were constrained west of the Vistula between Warsaw and Łódź, a city the Germans were occupying without a fight. With 30. Infanterie-Division tasked with defending a 30km stretch of the Bzura, a platoon of 3./PiBtl 30 was sent ahead to determine the status of the sector's bridges to help prevent Polish forces from crossing to the south bank. German combat engineers worked without infantry support and under heavy Polish fire to rig one of the structures for demolition. With Army Pomorze and Army Poznań having provided forces to establish defensive positions to the north-west and west respectively, the main Polish strike force would attack southwards.

Having gone to 55 PP commander's observation post – located near a stud farm just west of Ktery that provided horses for the Polish Army – Wład looked out upon the flat floodplain and farmland representing no man's land over which his 14 DP would soon cross. At 1800hrs, blaring trumpets preceded masses of Polish infantrymen who emerged from their jump-off positions and crossed several bridges over the 10–20m-wide, 1–1.5m-deep Bzura. As the attack unfolded, Polish artillery destroyed the cable and the bridge remained undamaged. On Knoll-Kownacki's far western edge, General Stanisław Grzmot-Skotnicki's cavalry advanced against I./IR 46 at Uniejów and captured the town at around 2000hrs. Some 30km to the north-east, a single battalion from 25 DP was unable to dislodge II./IR 26 at Łęczyca, but later in the day the cumulative weight of 25 DP finally succeeded in capturing the town. 30. Infanterie-Division's commander, Generalleutnant Kurt von Briesen, responded by committing two battalions from Infanterie-Regiment 46 to repel the Polish attack, but 17 DP found similar success soon after crossing the Bzura to engage III./IR 6. All along the line Polish infantry poured south of the Bzura and out onto the floodplain where they encountered thin lines of dug-in German machine-gun teams and riflemen that had established screens on the intermittent spots of high ground.

In 14 DP's sector, even with artillery support I/55 PP was unable to dislodge a company from Infanterie-Regiment 6 at Głupiejew, just beyond the floodplain's southern edge. Some of the Polish battalion veered to the east towards the boundary with 17 DP, while a second group moved on Bałków from the west where 3./IR 6 had established positions. On the battalion's eastern flank, II/55 PP occupied Bałków, but soon came under heavy lateral fire. Lieutenant Theobald Handke led his 6/55 PP to a manor property with a pond, where two platoons from 5/55 PP joined in a night-time fight that resulted in several Polish casualties. Handke was captured and what remained



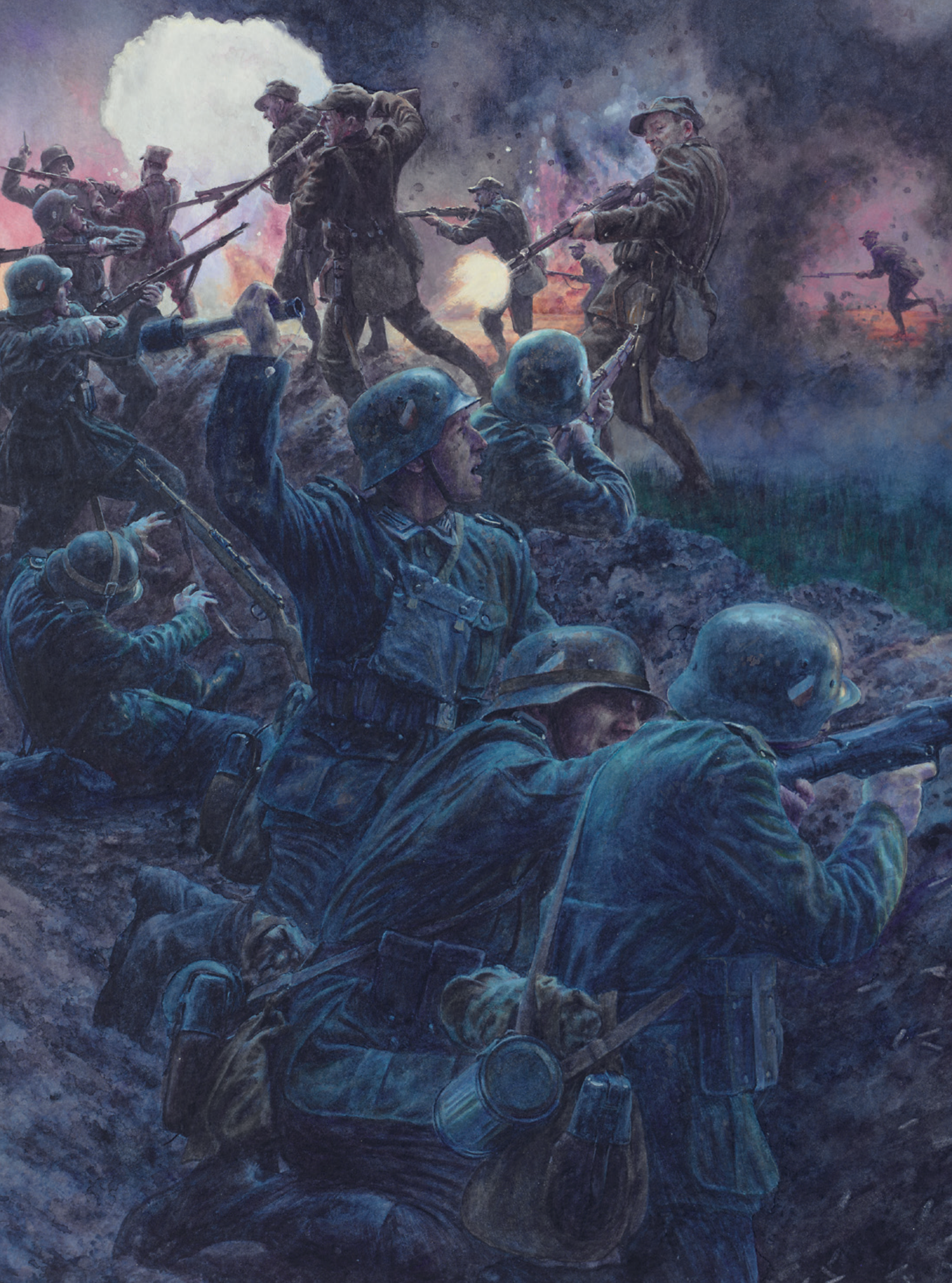
German infantry cross the River Bzura. Such crossings could be erected quickly to get infantry to the other side of rivers in sufficient strength to allow the establishment of a bridgehead. (NAC)

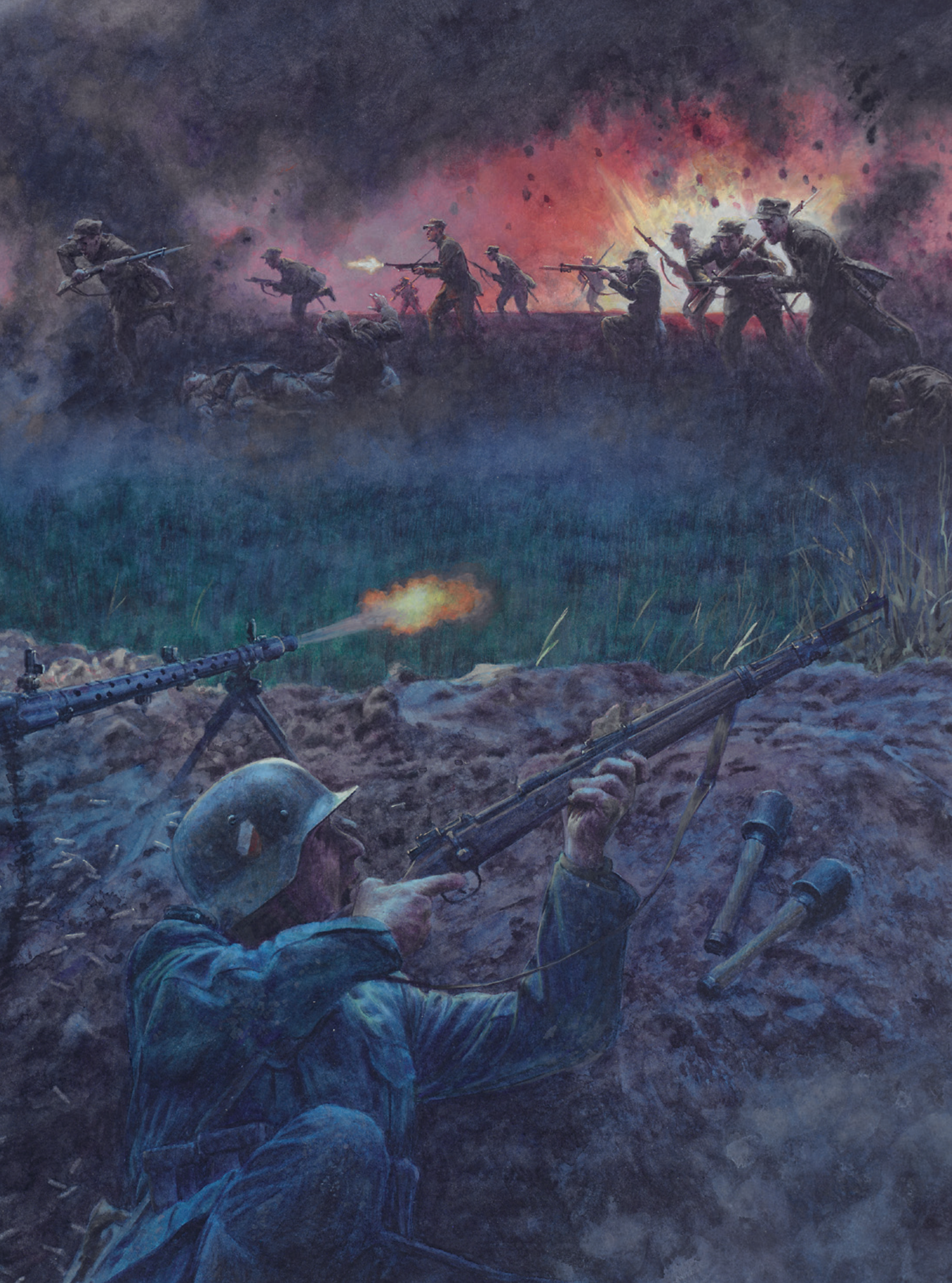
of his contingent split up into smaller groups and pulled back. Given the resistance encountered, 14 DP's commander, Colonel Mieczysław Łukoski, decided to stop the fight, as further night action was not likely to be successful.

In the centre of 14 DP's offensive, 57 PP began its southward advance from Siemienice at 1930hrs with the intent of striking German defences at Piątek. Having used several trails to cross the 4–5km of the Bzura floodplain, 1/57 PP easily secured Goślub-Osada, with II/14 PAL providing artillery support. A parallel attack just to the west by 2/57 PP failed, however, as it engaged 1./IR 6 and heavy frontal and lateral fire halted further Polish movement. To its left (east), Major Karol Wieczorek's II/57 PP used the causeway south of Młogoszyn and advanced southwards along the main road to Piątek, but its efforts were similarly halted on encountering III./IR 6 at Górki where an 'island' of ground rose slightly higher than the surrounding floodplain. 5/57 PP moved off to its left (east) and made contact with friendly elements, which had also crossed over. Acting as a reserve, Major Józef Kępiński's III/57 PP was located about 1km north of the Bzura near II/14 PAL.

Having established an advanced defensive position near Goślub-Osada at around 1800hrs, Polish infantry struck Oberleutnant Jürgen Lübbe's 1./IR 6 at 2100hrs; sporadic fighting throughout the night ensued. However terrifying and chaotic close fighting was during the day, a soldier was able to see at least something of what was going on and could form a basic idea of the situation. At night, however, much depended on the moral fortitude of the individual. While those with rural backgrounds often adjusted to night-time training and operations better than their urban comrades, nearly everyone contended with feelings of isolation and over-active imaginations due to the added stress. Unable to see well, especially when the surrounding darkness contrasted against nearby muzzle flashes and explosions, soldiers needed to rely on their hearing.

On the morning of 10 September, 14 DP resumed its assault. Seeing that the German defences before him continued to hold out, 57 PP's commander, Lieutenant-Colonel Tomasz Rybotycki, added III/57 PP on the western flank and ensured that 14 PAL provided artillery support. At 0600hrs 57 PP continued its southward advance; within half an hour one of the first salvoes





PREVIOUS PAGES

Night attack at Goślub-Osada

With 8. Armee having advanced along the River Bzura's southern bank to approach the south-western edge of Warsaw within the first week of fighting, the surviving combat elements of Army Poznań and Army Pomorze mounted a counter-attack into the Germans' thinly defended northern flank. During the afternoon of 9 September 1939, thousands of Polish soldiers poured across the waterway and into the largely unsuspecting 30. Infanterie-Division. That night, elements of 1/57 PP (14 DP) struck 1./IR 6 at Goślub-Osada, one of several rather isolated German defensive positions south of the Bzura.

While training played a critical role in acclimating soldiers to moving and fighting in darkness, in which hearing substituted for vision, it also mitigated the psychological trauma brought on by the kill-or-be-killed nature of combat, as well as other negative behaviours that accompanied it, including tunnel vision, irrationality, clouded judgement, auditory exclusion and the loss of fine and complex motor skills. This was typically related to the body's sympathetic nervous system, in which the sudden increase of adrenalin and cortisol triggered a fight-or-flight response in the individual that outwardly exhibited itself by increasing respiration, blood pressure and blood flow to larger muscles, which enhanced gross motor skills in actions such as running from or charging towards an opponent. Vasoconstriction of minor blood vessels at the end of appendages helped reduce bleeding from wounds; pupil dilation, cessation of digestive processes, anxiety and muscle tremors were also common.

badly wounded Briesen, who appeared from his 30. Infanterie-Division headquarters at Piątek with a bleeding arm and a torn uniform amid his staff, and moved into the middle of his retreating command. In an effort to restore control and halt the southward exodus he made his way to his disintegrating front line near Piątek. While some in the immediate area saw Briesen's example and returned to the fight, his relocation left the soldiers of 30. Infanterie-Division leaderless at the time of their greatest confusion and after a few more hours of fighting Polish forces captured the town. Reports from the oncoming front line indicated a general attack along the entire front. In fact, during the night the Poles thrust an entire division across the Bzura and were now attacking Piątek from the west and north, as well as south of Sobota at Bielawy.

Around Piątek, 57 PP was involved in fierce fighting at 1300hrs. Soon after, reports from the approaching front line indicated a full-scale Polish attack was under way, and not simply the movements of an enemy seeking to reach the Vistula and gain a brief reprieve from the fighting. With Piątek threatened from the north and west, and seeing the immediate situation as unsalvageable, the commander of Infanterie-Regiment 26, Generalmajor Moritz Basler, took over from a badly wounded Briesen and ordered a retreat, as 14 DP pushed around 30. Infanterie-Division. As 30. Infanterie-Division personnel headed south to defensive positions about 10km beyond Piątek, they repeatedly encountered leaderless elements from their disintegrating division. For now, 30. Infanterie-Division was no longer combat capable and other units were left to restore the German lines north of Łódź.

As 30. Infanterie-Division's withdrawal commenced, around midday a Polish aircraft loitering above the battlefield called in artillery fire as it flew in a circular pattern beyond the range of the available German anti-aircraft guns. Surprisingly, no Luftwaffe aircraft intervened. The numerous retreating German baggage and rear-area units around Piątek had to use the only road to Łódź, which ran through Zgierz. This allowed the Polish artillery to concentrate their fire to such a degree that any semblance of an organized

German retreat remained in doubt. In an effort to vacate the area, many within the German columns resorted to moving over open ground, which caused many of the horse-drawn carts to get stuck. Rumours and fear spread and unit leaders struggled to maintain order.

57 PP soldiers are sworn in on their regimental flag. (NAC)

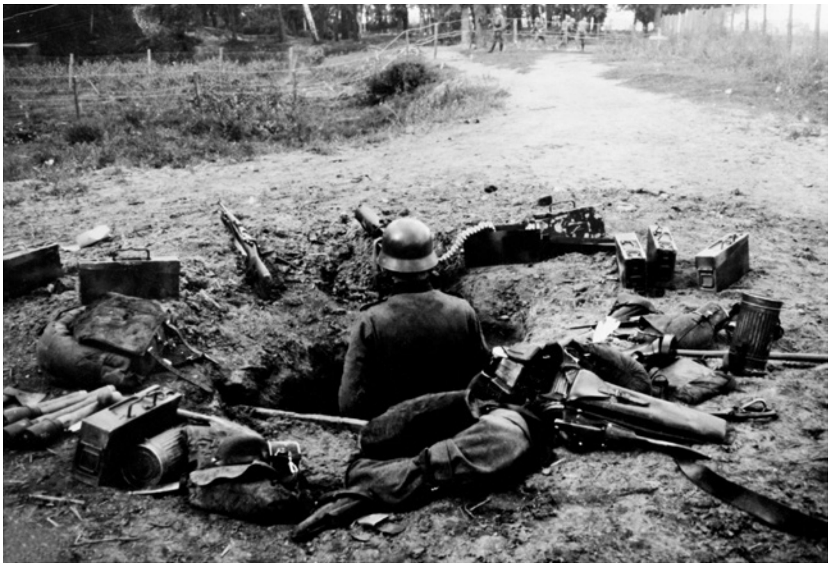
By 1400hrs I/57 PP had secured Piątek as German forces continued to withdraw southwards. III and II/57 PP were close behind to the west and east, respectively. Just to the west, I and III/55 PP had maintained parity with the overall advance and had cut the road to Piątek. There were plenty of German prisoners, many of whom were wounded. The village's school was soon used as a field hospital where the wounded from both sides were placed. Despite the Red Cross symbols on the exterior, the building was destroyed by Luftwaffe bombers during an attack. As darkness approached, by 1900hrs II/57 PP had taken over as the regiment's vanguard, but had only advanced about 1km south of Piątek. Over the same time, however, 55 PP had forged ahead more than 13km to cut the Piątek–Łódź road; III/55 PP had captured Kwilno.

During the fighting over Piątek both sides suffered heavy losses, including the commander of II/57 PP, Major Karol Wieczorek. The Polish regiments captured many German soldiers, as well as Briesen's command vehicle and maps of the larger battle zone. After heavy street fighting, 57 PP captured Piątek at midday. Seeing the German retreat as an opportunity, Wład ordered a pursuit to the south-east in order to capture Witów. The march continued throughout the night of 10/11 September, with the survivors of Friday's attack, who attempted to break through in the direction of Zgierz, just north of Łódź. The Polish regiments also took several prisoners. Under Polish pressure since the previous night, at around midday on 10 September Lübbe was killed just as he was being ordered to withdraw.

Throughout 11 September the Polish attack continued to bludgeon its way forwards, and although efforts were made to bypass German strongpoints to maintain momentum and minimize casualties, ultimately the Germans were able to pull back ahead of the unfolding front. While the Poles made slow progress on the western flank, to the east they advanced against less resistance and made greater progress. As the Polish front line got further from its starting area along the Bzura, the Polish lack of reserves translated into an inability to exploit any successes decisively. In light of 14 DP's excellent progress it was given control of 17 DP's heavy artillery groups to pave the way and further unhinge German forces seeking to effect a determined stand.

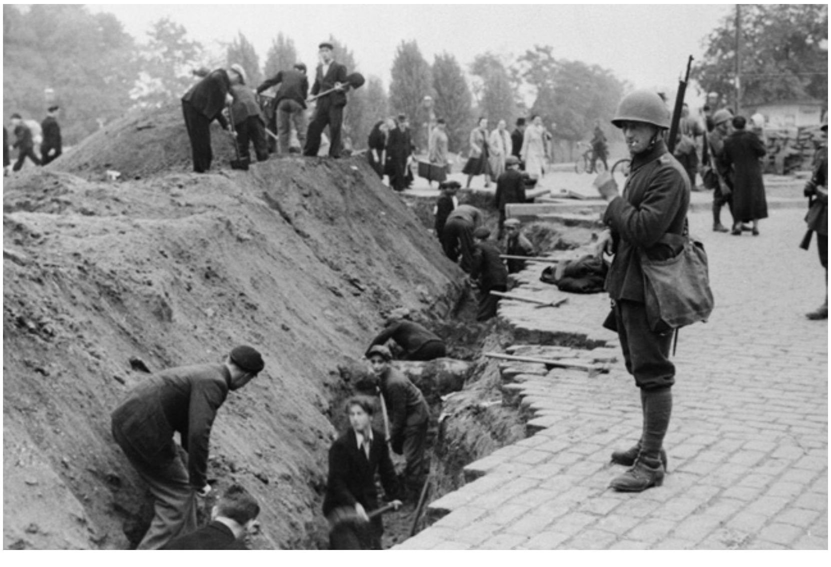
Having pushed the Germans back as much as 25km along a wide frontage, and essentially destroyed 30. Infanterie-Division's combat effectiveness, the

A German infantryman's foxhole near the perimeter of besieged Warsaw. His position includes a pair of captured Polish infantryman's kits, ammunition boxes, three *Stielhandgranaten* (stick hand grenades), an axe, and parts of what is presumably his own kit and Kar 98k rifle. His captured wz.30 machine gun is ready to fire. (ullstein bild/ullstein bild via Getty Images)



leading Polish forces consolidated their gains. Although the Polish counter-attack continued to make progress, albeit more slowly, on learning of Army Łódź making it to the Modlin Fortress, Kutrzeba halted his offensive. Even though Polish forces could conceivably have achieved additional battlefield success they lacked the necessary numbers, logistics and endurance to conduct a lengthy fight against an enemy that was redirecting its forces against them. That same day Blaskowitz, coincidentally, ordered his 8. Armee to pull back to the south the better to absorb and counter Polish efforts. With the Germans having regained their operational balance they brought their considerable ground and air resources to bear in containing the Polish forces involved. By 14 September, Polish formations were re-crossing to the Bzura's northern bank to establish defensive positions prior to continuing for Warsaw. The fighting ended on 17 September, the same day that Soviet forces invaded Poland from the east.

As the multi-pronged German offensive constricted the battlespace around Warsaw the defenders made every effort to reinforce the city's defences, including using civilian labour to dig anti-tank ditches and construct roadblocks. During the siege of the Polish capital between 8 and 28 September 1939, even the inclusion of Army Poznań and Army Pomorze remnants from the Bzura fighting could not prevent its capitulation. (Bettmann/Getty Images)



Analysis

LESSONS LEARNT: GERMANY

For all the rigid discipline and strict command hierarchy often associated with Germany's armed forces, during the 1939 campaign the Heer exhibited an ingrained adaptability to the fog of war and a mindset that was open to accepting accurate feedback towards continual improvement. Those insights gleaned on the front line were translated into doctrinal changes and applied as part of a cycle. While unable to possess a full-scale military during much of the Weimar era, senior German military leadership presciently maintained the framework of a general staff during this period. By instilling this pool of knowledge and experience in successive groups of select Reichswehr personnel, the military avoided having to start a leadership cadre from scratch in the event of war.

Except for limited participation in the Spanish Civil War (1936–39) and 'Flower Wars' (1936–39) during Hitler's reacquisition of territories such as the Saarland, Rhineland, Austria and Sudetenland, the younger German soldiers and officers lacked conventional combat experience. While this was potentially a drawback for many contemporary militaries, for the Wehrmacht it meant not having to 'unlearn' outdated tactics, methodologies and mindsets. Poland's predominantly dirt-road network took a toll on German vehicles and stretched maintenance arrangements that were already hampered by a lack of standardization born of a general absence of centralized manufacturing leadership and the hasty acquisition of foreign industries. This problem would continue to dog German ground forces as the Wehrmacht strove to make good their attritional losses in subsequent campaigns.

While Germany's armoured and motorized spearheads and tactical air support generally served their intended purpose – to effect a penetration of the enemy's defences and disrupt his command and control – the much more numerous German infantry forces provided the necessary strength to hold

These exhausted German soldiers, photographed on 28 September 1939, wear water-repellent Zeltbahn 31 shelter-quarters as ponchos. Camouflaged with a Heer splinter pattern they could be attached to one another to make a lean-to or various tent configurations. (NARA)

captured ground and secure victory. As no unit type operated in a vacuum the availability of organic or attached artillery, anti-tank, combat-engineer and other such assets provided the necessary capabilities and flexibility to deal with most battlefield situations. To coordinate the many ground and air assets the widespread use of two-way wireless communications also provided a major tactical asset, serving to facilitate intelligence gathering and timely decision-making. Operating within a decentralized framework, German command and control largely proved to be able to adapt to changing or unanticipated battlefield situations, thereby resulting in the commander's intent being successfully realized. It also worked to ensure that lessons learned in combat contributed towards improving future efforts.

Despite the Heer's tactical and operational battlefield prowess, several areas were found to be deficient and in need of refresher training. Combat leadership and initiative at all command levels required improvement, most obviously at battalion level and lower. During the Polish Campaign there were instances of a lack of initiative during contested river crossings and Luftwaffe air–ground attacks on friendly forward units; moreover, just three weeks into the campaign the Germans were running low on fuel, weapons and ammunition and had suffered considerable equipment losses considering the successes gained. Some of these issues resulted from a lack of adequate reconnaissance to provide an accurate picture of enemy defences and numbers, or to screen one's own forces. German infantry was often loath to attack enemy positions without artillery support, which often added unnecessary friction to an advance, hindered initiative and risked giving the enemy time to effect a withdrawal or improve his defences. While the Germans devoted much training to all-arms coordination, armoured vehicles were often dispersed, lacked coordination among themselves and suffered from poor march discipline, thereby degrading inter-unit operations. During the comparatively rare times when German infantry assumed a defensive stance, such as during the River Bzura fighting, they often lacked flexibility and sufficient depth to absorb and blunt an enemy offensive. In these comparatively more stationary situations it was observed that camouflaging men, equipment and vehicles, establishing dummy positions, regularly replacing foliage and other obfuscation efforts and night-fighting effectiveness could certainly be improved.

Soon after the campaign's conclusion, the Heer commander-in-chief, Generaloberst Walther von Brauchitsch, ordered his divisional and corps commanders to produce honest and accurate after-action reports in a bid to identify and correct deficiencies. Although Hitler emphatically resisted postponing his subsequent offensive in the West, he eventually relented and OKH instituted an updated training programme throughout the remainder of 1939 and into 1940 for those who had recently fought in Poland and the new, untested formations then being organized and fielded. Scenarios were arranged to reflect actual combat, and to provide the best, most up-to-date instruction, and officers and NCOs who were veterans of recent combat were assigned to Germany's various military schools. Training was initially given to individual soldiers before progressing to small units and eventually battalion- and regimental-level exercises. Commanding officers participated in three- to four-week courses in a special training division. Leading from the front was stressed for officers and NCOs, although not to the detriment of effective command and control.

Destroyed Polish wagons and artillery along the River Bzura. Although such equipment seems anachronistic for a modern military force in 1939, the great majority of German transport similarly relied on horses. (NAC)

LESSONS LEARNT: POLAND

Strategically, the Polish military of 1939 had often been portrayed as anachronistic and better suited to fight the last world war rather than the one they faced on 1 September 1939. On closer examination many of these professed misconceptions, exaggerations or deliberate distortions for propaganda reasons served to deflect blame from any deficiencies Poland's allies may have exhibited by an enemy looking to minimize the effectiveness of their opponent. Forced to incorporate a number of seemingly contradictory considerations into their national defence planning, members of Poland's senior civilian and military leadership opted to defend the country's industrialized, overwhelmingly ethnic-Polish west. Because it had formerly been divided among Imperial Germany, Austria and Russia, Poland had to contend with sizeable minority populations that were commonly at odds with the national government. As effectively defending the country's lengthy borders was unrealistic, a strategy of relinquishing ground grudgingly to buy time for Britain and France to put action behind their treaty-bound words was thought to best ensure Polish territorial integrity in an anticipated short campaign. Given Poland's economic and manufacturing capabilities – substantially inferior to Germany's – should such intervention by Britain and France fail to materialize quickly, the defender would soon succumb to a war of attrition.

Having become a political entity again after more than a century of division and foreign rule, Poland needed to re-establish its institutions largely from the ground up. Polish military history and traditions often stemmed from the Napoleonic era, which gravitated towards the country's famed horsemen. Such views had been reinforced more recently during the Polish–Soviet War and the Spanish Civil War, during which Polish and Moroccan cavalry, respectively, proved themselves on an increasingly mechanized battlefield. With an ongoing friendly relationship with France, following World War I much of Poland's post-war doctrine, weapon systems and other military necessities naturally originated there. What weapons that could be procured were either taken from or left by the vacating imperial nations and were used to supplement existing stocks. The Polish Army struggled to provide efficient organization to get the right units and resources to where they were needed and in the proper numbers to maintain an economy of force and mitigate wasted effort. With the great majority of its forces being foot-bound infantry and just over 10 per cent cavalry, there was a deficiency in armour, artillery and other services that limited the Polish Army's flexibility and endurance on the battlefield.

As Poland's command-and-control structure also reflected that of France it was overly centralized and too rigid to respond optimally to changing battlefield circumstances. Poland would not be able to sustain the mobilization

Seeing the futility of continuing the fight, especially later in the campaign, many Polish soldiers deserted or surrendered. Note the German personnel in hillside positions beyond. (NAC)

Refugees, accompanied by the belongings and livestock they could take with them, sought to avoid the conflict. With roads critical to military operations, such congestion could greatly hinder friendly military movement. During the Polish campaign German formations were known to use such masses to minimize enemy fire. Note that the man is barefoot. (Nik Cornish at www.stavka.org.uk)

for an extended period, as the monthly cost of doing so equalled two years of national government expenditure. Tasked with conducting combat operations within these overarching operational and strategic constraints, Poland's foot-bound infantry, like much of its German counterparts, could be transported quickly by rail to the battle zone, but fought and manoeuvred at a walking pace. Poor Polish communications that failed to keep pace with a rapid battlefield tempo translated into a lack of operational coordination and information was frequently out of date by the time it reached those tasked with acting upon it.

While Polish and German infantry divisions possessed roughly the same number of personnel, Germany's much greater industrial output manifested itself in several ways that placed its adversary at a considerable tactical and operational disadvantage. Polish infantry instruction was inferior to German training, and in many instances was incomplete when the war began. German artillery deployed larger and more numerous guns, which extended the protective umbrella under which its infantry frequently fought. However brave and resolute the Polish infantryman fought on the ground, with the Luftwaffe having quickly established aerial dominance, it could conduct ground-attack, level bombing, reconnaissance, liaison and casualty-removal operations while simultaneously denying them to the enemy. As the Germans could orchestrate the course of battle, the Poles were commensurately forced to react, often at a pace that exceeded the capacity of the available transport arrangements.

With what remained of the Polish military after the conflict's conclusion having slipped across the border into Romania, or been captured and/or killed in captivity, what knowledge management existed would come from the participants themselves, as lessons-learnt documentation was not a priority for extraction. As these personnel made their way to France and then Britain to continue the fight they, and those from other defeated European countries, were integrated into their host countries' military systems.

Aftermath

As the Polish military continued to conduct a fighting withdrawal that gravitated towards Warsaw or eastwards to trade space for time, the absence of direct, sustained military support from Poland's treaty-bound Western allies enabled several German axes of attack to proceed against an increasingly fragmented and disjointed defence. With Britain not even having a military presence on the European mainland and the French resorting to little more than a brief cross-border training exercise into Germany, Poland's leadership increasingly saw the country's military as being in an untenable position. With most government personnel having relocated eastwards as the fast-moving front once again approached, the

Following the German victory over Poland, *Ordnungspolizei* (Order Police) were brought in to provide policing services under the Reich Interior Ministry. Some of its members, shown here during training, wear an odd mix of German boots, helmets and slightly modified M1936 uniforms, but with captured Polish kit. (NAC)

The Prime Minister of Poland, General of Division Władysław Sikorski, inspects Polish soldiers in France. Polish soldiers and officers who escaped capture in Poland or subsequent internment in Romania made their way to France and Britain to continue the fight. On France's defeat in June 1940 Polish soldiers fought under British command. Any hopes of playing a role in the re-establishment of their country after 1945 were quashed by the Soviet occupation of Poland and an Allied desire to enable it. (Keystone/Hulton Archive/Getty Images)

only viable option appeared to be coalescing along the Hungarian and Romanian borders in what appeared to offer the prospect of being a defensible redoubt. While the contingency also offered an escape route, if ultimately needed, it also presented a tempting refuge for those remnants of the Polish Army that continued to resist.

With Piłsudski's controversial vision of a federation of independent states from Finland to Georgia acting as a buffer against Soviet expansion unrealized and Stalin having long desired to take Poland's eastern, predominantly ethnic-Belorussian and Ukrainian regions, on 17 September 1939 the Soviet leader unleashed the Red Army to accomplish the task in what was to be a policy of annexation and subjugation that was soon inflicted on the Baltic States, Moldova and parts of Finland. With the demarcation line essentially predetermined via the recent non-aggression pact between Germany and the Soviet Union, and with the Polish military and leadership oriented almost entirely to the west and nearing collapse, halting such a major offensive in its east was impossible.

As the Germans advanced the captured territories were immediately placed under military control, which meant a number of restrictive measures were instituted, including placing collaborators in civilian administrative positions, confiscating all Polish weapons, banks and offices, and searching all homes. Moreover, newspapers and gatherings were banned, schools were to provide a German-oriented curriculum in German, and Wehrmacht personnel were to avoid exhibiting kindness and maintain a street presence during curfews. While France and Britain declared war on Germany on 3 September 1939, no such declaration was made against the Soviet Union, whose subsequent occupation of Poland was no less brutal than Germany's. Ultimately the Polish military fought well with what it had, but no amount of determination could enable Poland to prevail in a two-front war against a pair of powerful adversaries without outside assistance.

UNIT ORGANIZATIONS

German infantry battalion

In 1939 a German infantry regiment contained three infantry battalions, a light infantry transport column, an infantry mounted reconnaissance platoon, a motorized infantry anti-tank company (12 3.7cm anti-tank guns and four LMGs) and an infantry-gun company (two 15cm infantry guns and six 7.5cm infantry guns).

Each infantry battalion (23 officers and 797 men) had a headquarters, a communications platoon and a supply train. Each infantry battalion also had a headquarters, company supply train and machine-gun section, as well as three infantry companies and one HMG company (eight HMGs and six 8.1cm mortars). Each infantry company (four officers and 186 men; nine LMGs, two HMGs and three 5cm mortars) had three rifle platoons. The mortar and LMG platoons used horse-drawn carts for non-combat transport.

The rifle platoon was typically commanded by a *Leutnant* or *Feldwebel* and was composed of three rifle sections and a 5cm mortar section. Led by an NCO with a second NCO as his assistant, each rifle section relied on a 7.92mm MG 34 air-cooled machine gun for its core firepower. The machine-gun team was composed of four soldiers (the machine-gunner, his assistant and two ammunition carriers), who carried sidearms for personal defence. The rifle section's seven riflemen served as the unit's assault element.

Polish infantry battalion

Each of a Polish infantry regiment's three 949-man infantry battalions had a headquarters, a communications platoon, sanitary service, three rifle companies and an HMG company. The latter included three HMG platoons, each with three combat teams that individually used a horse-drawn *biedka* (two-wheeled cart) that mounted a water-cooled wz.30 (US derivative) or wz.08 (German derivative) machine gun, and an ammunition section using two *biedki*. A fourth HMG platoon was identically composed, save its combat teams used *taczanki* (four-wheeled carts). A fifth platoon had two teams, each with a *biedka* carrying an 81mm wz.31 mortar (French derivative) and a second *biedka* for the ammunition. A supply section was composed of a field kitchen and rolling wagons.

A Polish rifle company (226 men and four officers) had a headquarters, supply section, signals platoon and three infantry platoons, each with three Browning wz.28 LMGs, a 7.9mm wz.35 anti-tank rifle and a 46mm wz.30 mortar. The 19-man rifle team represented the Polish infantry's smallest operational unit and although typically subordinated to a platoon it was trained to operate independently if circumstances required. Each rifle team was led by a *plutonowy* (master corporal); his second-in-command, a *kapral* (corporal), was responsible for ensuring unit intercommunication and that sufficient ammunition was provided. One soldier carried a wz.28 LMG and worked alongside two riflemen assigned as ammunition carriers. A pair of *starszy strzelcy* (senior riflemen) commanded the team's remaining 11 riflemen.

BIBLIOGRAPHY

Primary sources

CAW, spis 68/506/631, KTB Stab 32. Infanterie-Division, 24.8–4.10.1939.

Documents on German Foreign Policy 1918–45, Series D, Vol. 5, June 1937–March 1939.

Ia, Anlage z. Kriegstagebuch 1, 21. Infanterie-Division, 21 August–30 September 1939, NAM, Series T-315, Roll 749, Frame 519.

Ia, Kriegstagebuch 1 und Kriegsrangliste, XXI Armeekorps, August–October 1939, NAM, Series T-314, Roll 660.

NARA, T.314, R.660, Anlagen zum Kriegstagebuch, Ia, Korpsbefehl fur den Angriff uber den Narew am 7.9.1939*,* kl. 000286.

Manuals

Heeres-Dienstvorschrift (1938). *130 Ausbildungsvorschrift für die Infanterie* [Training regulation for the infantry]. Berlin: Verlag Reichsdruckerei.

Szkup, Mariusz Miazga, Michal, trans. Alexander Kawczynski (n.d.). *Regulamin piechoty Część II: Walka oddziałów piechotyi musztra* [Polish Army Manual for Infantry, 1934: Infantry Tactics on a team, platoon, and company level]. https://www.scribd.com/document/262906785/Polish-Infantry-Tactics-on-Team-Platoon-and-Company-Level (Originally published in 1934).

Secondary sources

Breithaupt, H. (1955). *Die Geschichte der 30. Infanterie-Division 1939–1945* [The History of the 30th Infantry Division 1939–1945]. Bad Nauheim: Müller-Hillebrand, Burkhard.

Porwit, Marian (1983). *Komentarze do historii polskich działań obronnych 1939 r.* [Commentaries on the History of Polish Defensive Operations in 1939]. Three volumes. Warsaw: Czytelnik.

Schröder, Jürgen & Schulz-Naumann, Joachim (1956). *Die Geschichte der Pommerschen 32. Infanterie Division, 1935–1945* [The History of the 32nd Infantry Division, 1935–1945]. Bad Nauheim: H.H. Podzun.

Wodzyński, Artur (2013). *W odwrocie i walce: codzienność żołnierzy polskich podczas kampanii 1939 roku* [In Retreat and Battle: The everyday life of Polish soldiers during the 1939 Campaign]. Gdańsk: Muzeum II Wojny Światowej.

Personal accounts

Polish Institute and Sikorski Museum (London):

9 DP: Commander and Staff – PB.I.26A; 22 PP – B.I.26C; 34 PP – B.I.26D; ON Battalion Koronowo – B.I.26F; 9 PAL & 58 DAL – B.I.26H.

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INDEX

References to illustrations are shown in **bold**. References to plates are shown in bold with caption pages in brackets, e.g. **66–67**, (68).

anti-tank guns (Ger) 52: 3.7cm 35, 51, 52, 53, 78; 8.8cm 52, 53
anti-tank guns (Pol) 13, 19, 22: wz.36 **43**, 46–47, 49, **51**
anti-tank rifles (Ger) **24**, 78
armies (Ger): 2. 36; 3. 39, 44, (56); 4. 32, 39, 58, 60; 8. 58, 59, 60, 61, 62, 64, (68), 70; 10. 59, 62
armies (Pol): Łódź 58, 59, 61, 70; Modlin 42, 46; Pomorze 28, 29, 31, 32, 35, 37, 58, 60, 62, 64, (68), 70; Poznań 28, 58, 60, 61, 64, (68), 70
army corps (Ger): II. 30–31, 32, 35, 36, 40; III. 31, 60; X. 59, 60; XII. 44; XIII. 59; XIX. 43, 44; XXI. 31, 32, 43
army groups (Ger): Heeresgruppe Nord 6, 36, 52, 59; Heeresgruppe Süd 6, 59
artillery forces/support (Ger) 39, 40, 49, 50, 51, 53, **54–55**, (56), 57, 72: AR 21 52
artillery forces/support (Pol) 19, 64, 65, 68, 69
  9 PAL 30, 34, 39
  14 PAL 65
  18 PAL 48, 50, (56)
artillery pieces: (Ger) 51, 52, 75; (Pol) 22, 30, 48, 50, 52, (56), **73**, 74

Balków, fighting for **63**, 64
bicycle troops (Pol) **33**, 37, 38, 35, 46
Bielany, Polish forces at 61, 68
Blaskowitz, Gen der Inf Johannes 61, 70
Bock, GenOb Fedor von 36, 40, 43
Böhme, GenLt Franz 30, 31
Bortnowski, Gen of Dvn Władysław 37, 38, 58, 60, 61
Brda (river), crossing of 36–37, 38, 39
Briesen, GenLt Kurt von 64, 68
Buszkowo, fighting for 39, 40
Bydgodzcz, German/Polish forces in 29, 32, **33**, 35, 37, 38, 40, 41, 60
Bzura (river), fighting along 41, 58–62, **63**, 64–65, **65**, **66–67**, (68), 68–70, **73**

cavalry brigades (Pol) 12, 13, **13**, 18, 22, **22**, 23, 29, 39, 42, 60, 61, 73
combat engineers: (Ger) 16, 17, 24, **33**, 37, 39, **40**, **41**, 49, 51, 53, **54–55**, (56), 64, 72, 78; (Pol) **33**, 36, 62
communications equipment/units: (Ger) 23, **31**, 72, 78; (Pol) **22**, 23, 38, 49, 53, 78

Falkenhorst, GenLt Nikolaus von 43, 49

German Army: combat effectivenesss 71–73, 75; combat tactics/doctrine 8–9, 23–24, 71; conscription/recruitment 16; expansion/remilitarization of 6, 20, 34; *Fall Weiß* (‘Case White’) 6, **7**, 30–31; training **5**, 16–17, **40**, **41**, 52, (68), 72, 73, 75, **76**
Goślub, fighting for 62, **63**
Goślub-Osada, fighting for 62, **63**, 65, 68, **66–67**, (68)
Grudziądz, fighting for 41, 52, 46
Grzmot-Skotnicki, Gen Stanisław 64
Guderian, Gen der Panzertruppe Heinz 31, 32, 36, 37, 38, 39, 43

HMG coys/pltns: (Ger) 78; (Pol; CKM) 35, 44, **45**, 47, **48**, 50, **54–55**, (56), 78
HMGs (Ger) 78
HMGs (Pol) 13: wz.30 47

infantry dvns (Ger) 20, 34, 75
  2. ID 31
  3. ID 34, 35, 38, 39
  20. ID 31
  21. ID 43, 44, **45**, 46, 47, 49, 52, 53, **54–55**, (56), 57
  23. ID 40
  30. ID 61, 64, (68), 68, 69
  32. ID 10, 30, 31, 34, 35, 36, 37, 38, 39
infantry dvns (Pol) 18, 19, 28, 58, 75
  4 DP 60, **63**
  8 DP 53
  9 DP **14**, **15**, 28–29, 30, 32, **33**, 34, 35, 36, 37, 38, 39, 40, 41
  14 DP 60, 61, 62, **63**, 64, 65, **66–67**, (68), 68, 69
  15 DP 29, 38, 60
  16 DP 60
  17 DP 60, 61, 64, 69
  18 DP 42, 43, 46, 48, 49, **54–55**, (56)
  25 DP 60, 61, 64
  26 DP 60
  27 DP 37, 38, 39, 40, 60
  33 DP 42, 43, **45**, 48, 50, 53, 57
infantry regts/bns/coys (Ger) 42, 78
  IR 3 44, **45**, 51, 52, 53, 57
  IR 4 **10**, **11**, 30, 32, **33**, 34, 38, 39
  IR 6 62, **63**, 64, 65, **66–67**, (68)
  IR 8 39, 40
  IR 9 40
  IR 24 **45**, 49, 52
  IR 26 **63**, 64, 68
  IR 32 32, **33**
  IR 34 **33**
  IR 45 **45**, 49, 51, 52, **54–55**, (56)
  IR 46 64
  IR 50 32, **33**, 34, 35, 36, 38
  IR 94 38
  IR 96 30, 32, **33**, 34, 36, 38, 39, 40
infantry regts/bns/coys (Pol) 29, 78
  22 PP **14**, **15**, 29, 30, 32, 33, **33**, 34, 35, 36, 37, 38, 39–40
  33 PP 44, **45**, 46, 47, 48, 49, 50, 53, **54–55**, (56), 57
  34 PP 29, 34, 35, 36, 39, 41
  35 PP 29, 35, 38, 40, 41
  42 PP 44, **45**, 47, 53, **54–55**, (56)
  55 PP **63**, 64–65, 69
  57 PP 62, **63**, 65, **66–67**, (68), 68, 69, **69**
  58 PP **29**, **63**
  64 PP 64, 69

Jednaczewo, defence of 42, 43, **45**, 48, 49
Jędrychowski, Lt-Col Franciszek 29, 30, 38–39

Knoll-Kownacki, Gen of Bde Edmund 61, 64
Koronowo, fighting around 32, **33**, 39
Kutno, Polish forces at 58, 60, **63**
Kutrzeba, Gen of Dvn Tadeusz 58, 59, 60, 64, 70

Łęczyca, fighting for 60, 61, 64
LMGs (Ger) 78
LMGs (Pol): wz.28 14, **14**, 15, 27, 48, 49, **54–55**, (56), **59**, **66–67**, 69, 78
Łódź, fighting for 13, 59, 62, 64, 68, 69
Łomża, fighting for 42, 43, 44, **45**, 47, 48, 49, 52, 53, **54–55**, (56), 57
Luftwaffe operations 18, 23, 35, 50, 51, (56), 59, 60, 61, 68, 69, 71, 72, 75

machine-gun coys/pltns/teams: (Ger) 51, **54–55**, (56), 64, 78; (Pol) **25**, 50
machine guns (Ger) 24, 51: MG 34 **54–55**, (56), **66–67**, 78
machine guns (Pol) **37**, 40, 49, 51: wz.08 50, 78; wz.25 **25**, **27**; wz.30 **48**, **70**, 78
Mąkowarsko, forces at 29, 36, 38, 39
Matwica, defence of **45**, 49, 50
Młot-Fijałkowski, Gen of Bde Czesław 42, **46**, 50
mortars: (Ger) 24, **49**, 51, 52, 78; (Pol) 27, 78
motorcycle units (Ger) **31**, 32, **33**, 36, 37, **39**, **61**

Narew (river), defence of 42–43, 44, **45**, 46, 48–51, 51–53, **54–55**, (56)
Nowogród, forces/fighting for **32**, 42, 43, 44, **45**, 46, 48, 49, 50–51, 51–53, (56), 57

(independent) operational groups (Pol) 29, 37, 42, 44, 46, 49–50, 60, 61
Ordnungspolizei **76**
Osowiec, defence of 13, 42
Ostrołęka, defence of 42, 51

Panzer dvns: 3. **20**, 29, 31, 32, **33**, 35, 36, 38, 40, 38; 10. 46, 49
Panzer regts: 6. 36; 8. 49
Piątek, fighting for 61, 62, **63**, 65, 68–69
Piątnica (Forts I–V), fighting for 42, 44, **45**, 46–48, 49, 50, 52, **54–55**, (56), 57
Piekary, fighting for 62, **63**
Piłsudski, Marshal Jozéf 4, 5, 6, 13, 22, 77
Pniewo, Polish forces at 42, 43, **45**, 48, 53
Poborowski, Maj Jan 34, 38
Poland: Britain, support from 6, 28, 30, 43, 62, 74, 75, 76, 77; ethic-minority populations 5, 28, 35, 41, 46, 73–74, 77; France, support from 5, 6, 22, 26, **27**, 28, 43, 62, 74, 75, 76, **77**; German military control of 77; invasion by Soviet Union 17, 70, 77
Polish Air Force 18, 35, **35**, 51, 59, 60, 68
Polish Army: conscription/recruitment 18–19; defensive lines (waterways) **7**, 12–13, 28, 32, **33**, 39–41, 43, 44, **45**; doctrine/tactics 13, 26–27, 28, 73–74; modernization of 12, 13; shortcomings 26, 69, 70, 74–75; training 18–19, **18**, **19**, 48, 75; transition to war footing 17–18, 28–31, 34, 60
‘Polish Corridor’, cutting of 6, 28–32, **33**, 34–41, 43, 44, 58, 60

Radońsk, fighting for 32, 34
reconnaissance forces: (Ger) 35, 38, 39, 40, 46–47, 78; (Pol) **33**, **45**, 46, **63**
rifles (Ger) **54–55**, (56), **76**: Kar 98k **10**, **66–67**, **70**
rifles (Pol) 18, **29**, **54–55**, (56), **66–67**: Kar 98AZ **22**; wz.29 27, **48**; wz.95 **19**; wz.98 27, 48
Rogaszyn, forces/fighting at 62, **63**
Różan, fighting/forces at 42, 43, 49, 51
Rybaki-Czartoria, Polish forces at 42, 43
Rydz-Śmigły, Marshal Edward 22, 43, 49, 58, 60, 64

Schweppenberg, GenLt Leo Geyr von 20, 36
Sępólnow, fighting for **10**, **11**, **14**, **15**, 32, **33**, 34, 35, 39
Sikora, Maj Józef 46, 50, 53
Sikorski, Gen of Dvn Władysław **77**
Sokole-Kuźnica, fighting for 29, 30, 32, **33**, 36, 37, 38, 39, 40
Stanek, Lt-Col Lucjan 48, 49
Stara Łomza, defences at 42, 48
Strachiewicz, Gen of Bde Wacław 60
Strauß, Gen der Inf Adolf 30, 35, 38, 40
Szablak, fighting for 42, 43, **45**, 49, 50

tankettes (Pol): TKS **27**
tanks (Ger) 5, **5**, **23**, 25, 26, 36, **39**, 46–47, 49, 50
tanks (Pol): 7TP **26**, **43**
Tuchola 29, 36, 38

Vistula (river), German advance to 37, 38, 39, 40, 43, 58, 64, 68

Wałdowo, fighting at 30, 35, 36
Warsaw, as German target 6, 12–13, **26**, 43, **49**, 56, 58, 59, 60, 61, 62, 64, (68), 70, **70**
Werobej, Col Józef 29, 34, 35, 37, 38, 40
Więcbock, German forces at 30, 32, **33**, 34, 35, 36
Wład, Gen of Bde Franciszek **29**, 60, 64, 69

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Editor's note

In this book, with a handful of exceptions such as Warsaw and Vistula, the names of settlements and rivers in Poland in September 1939 are given in Polish, with the German name in parentheses. Settlements in Germany in September 1939 but now in Poland are given in German, with the Polish name in parentheses.

Officer rank comparison

German	**Polish**
Generalfeldmarschall	*marszałek polski* (Marshal of Poland)
Generaloberst	–
General der Panzertruppe, etc.	*generał broni* (General of the Army)
Generalleutnant	*generał dywizji* (general of division)
Generalmajor	*generał brygady* (general of brigade)
Oberst	*pułkownik* (colonel)
Oberstleutnant	*podpułkownik* (lieutenant-colonel)
Major	*major*
Rittmeister	*rotmistrz* (captain of horse)
Hauptmann	*kapitan* (captain)
Oberleutnant	*porucznik* (lieutenant)
Leutnant	*podporucznik* (second lieutenant)

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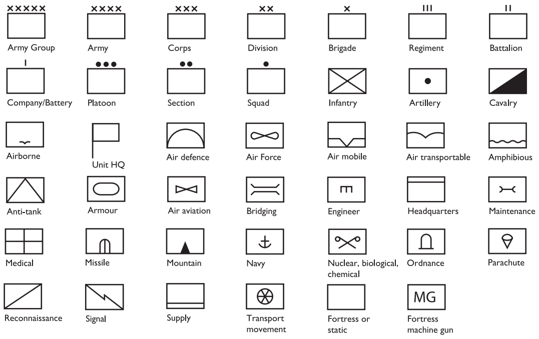
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Army Group
XXXX
Army
XXX
Corps
XX
Division
X
Brigade
III
Regiment
II
Battalion
I
Company/Battery
●●●
Platoon
●●
Section
●
Squad
Infantry
Artillery
Cavalry
Airborne
Unit HQ
Air defence
Air Force
Air mobile
Air transportable
Amphibious
Anti-tank
Armour
Air aviation
Bridging
Engineer
Headquarters
Maintenance
Medical
Missile
Mountain
Navy
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Ordnance
Parachute
Reconnaissance
Signal
Supply
Transport movement
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MG
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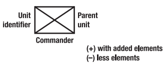
Key to unit identification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